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—MEMORIES—

COLLECTOR'S
EDITION

FORD IN MOTORSPORT



FROM THE BEGINNING



RALLYING ICONS



THE MODERN ERA



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- Mk2 Escort +
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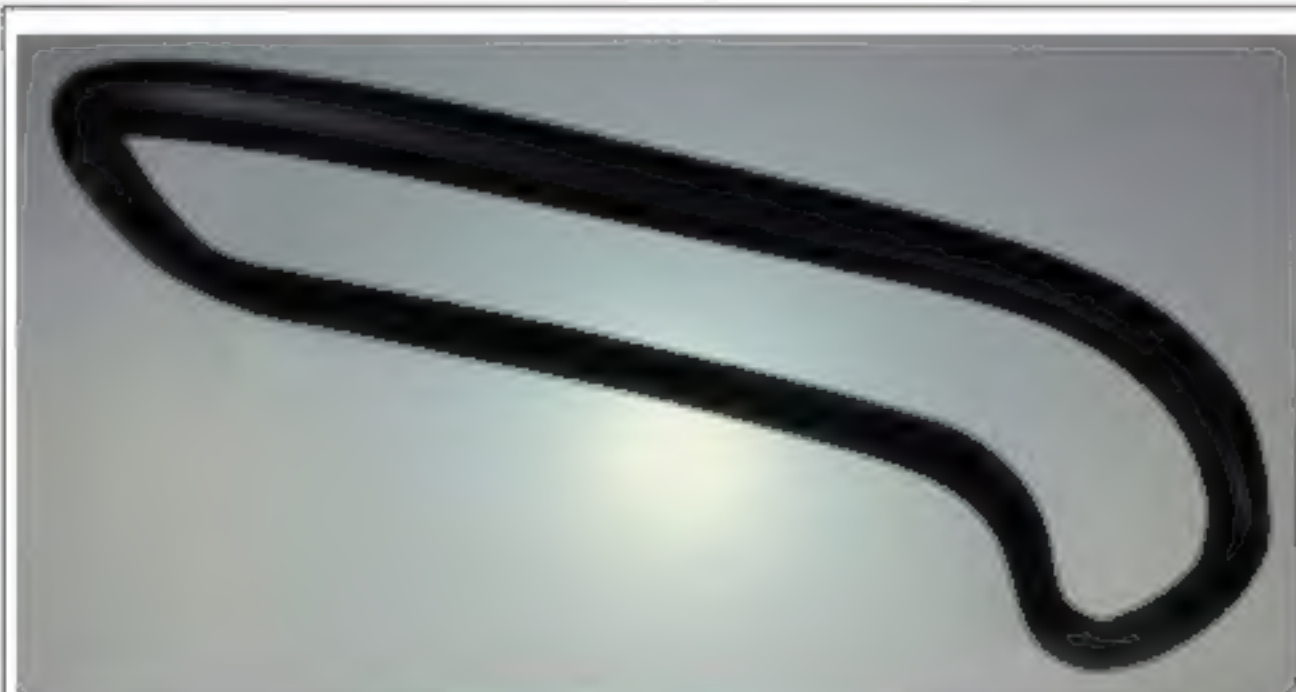
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FORD IN MOTORSPORT



Welcome to the forth issue in the Ford Memories series, Ford in Motorsport. What a title? Repeat that back – Ford in Motorsport. From every race division around the globe, somewhere along the line, Ford has been a part of it. The subject matter is so vast, that to tackle it in one go would take thirty years to compile and just as long to read. And so what this bookazine aims to do is give you a *Smash Hits* of different histories, development stories and the cars behind them, many of which have now become iconic members of the Ford Hall of Fame.

We start things off with what many consider the pioneer of Ford motorsport, the Lotus Cortina. Developed in conjunction with Colin Chapman of Lotus, the Cortina, with its twin-cam engine, went on to dominate on the 1960's race track.

Staying on the tarmac, we trace the development history and race victories of the famous GT40, before looking at the iconic red and gold liveried cars of Alan Mann. Still track side, with its styling that would scare small children, the Zakspeed Capri roars onto page 38. In an era of Group 5 rulings, the Zakspeed had as much in common with the road going Capri as a shopping trolley, but allowed the team to create one of the most menacing looking cars to grace the grid.

We also look at all things touring car, which at times had, and still does, have all the highs and lows we have come to love about motorsport. Charting the history of

this highly competitive series, our overview focuses on the Sierra Cosworths of the 1980s and their dominance on track, the rivalries between drivers and the cheeky little nudges that made or broke championships. This 'passion' continued into the 90s with the introduction of the Mondeo to the BTCC and continues today with the latest Focus.

It is not all about the track cars though. For many of us, when we think Ford and motorsport, our minds instantly take a wander through woodlands or dusty outbacks. Not in some kind of mindfulness exercise, but recalling Escorts – in every guise – hurtling through rally stages and hitting hillocks and momentarily becoming airborne. With the success of the Mk1s, the Mk2 Escort entered the rally fray and cleaned up. Ford would then have to wait 20 years or so – not forgetting the ill-fated Group B of the 80s– and the introduction of the Escort Cosworth to enjoy that kind of success again. The Escorts of the 90s became the Focuses of the 2000s, with the modern Fiesta now being preferred in the WRC.

We all have our stand-out favourite Ford racers, even having models of them as kids sometimes, so sit back and enjoy this blast through the motorsport ages and reminisce of seeing the plethora of liveries that have captured our attention over the years.

Paul Sander
Editor, Ford Memories

FORD IN MOTORSPORT

A look at the cars, histories and development stories of some of the most iconic Fords.

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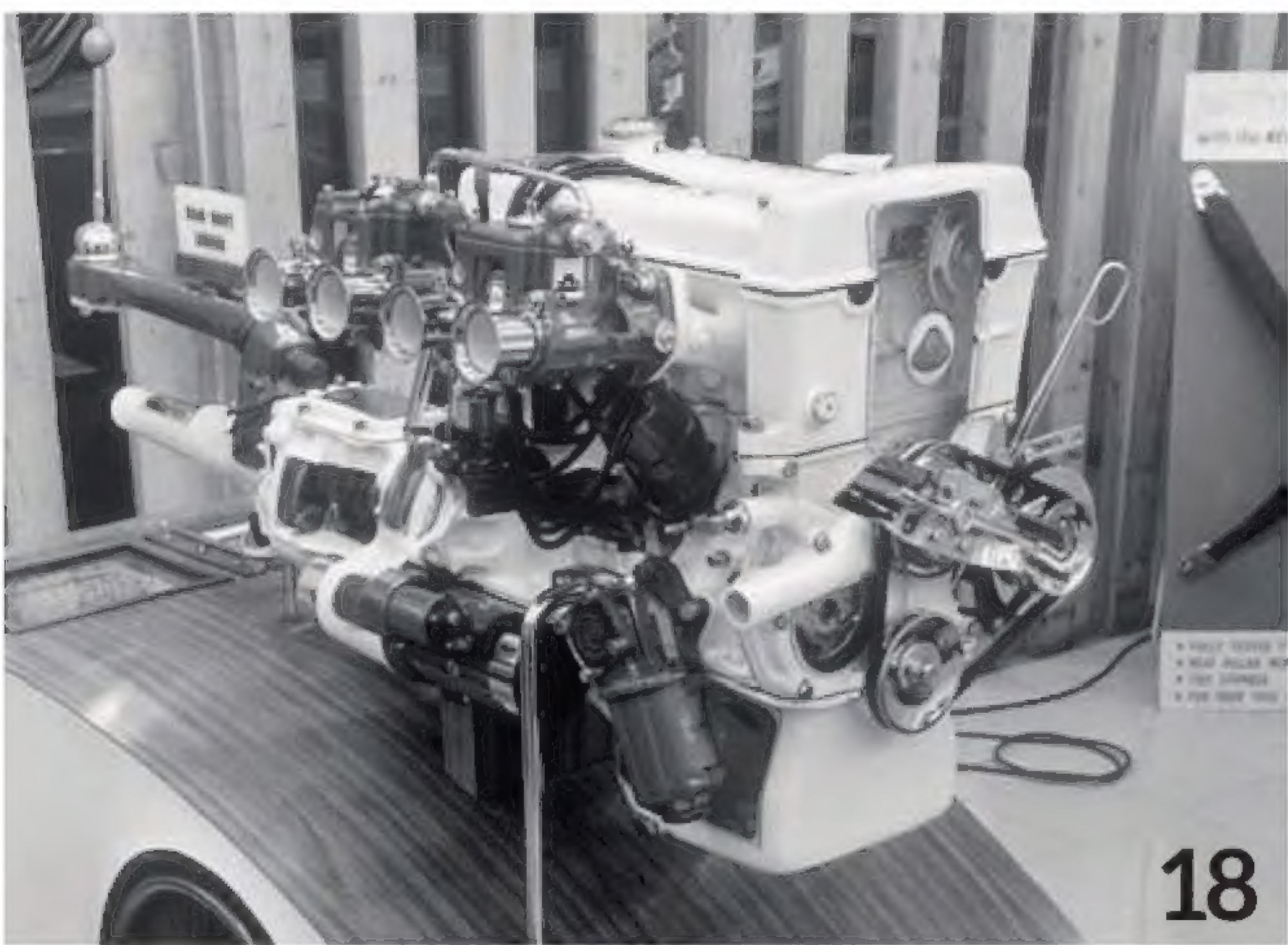
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Pole position

Ford's involvement with motorsport is entwined with the brand's very essence. For drivers and fans alike, competition is in the Blue Oval blood.

What is your favourite Ford? You might prefer old-school warriors or modern Blue Ovals; you may favour comfort over performance; style over substance. You perhaps even treasure your car's economy and simplicity. But whatever your Ford-shaped preference, chances are it's been used in motorsport – and, more often than not, at the head of its field.

So many Ford models have found success in competition that it's tricky to think of a badge that's never seen active service. Escort: rallying, obviously. Sierra: circuit racing. Model T: drag racing.

But what about the Transit? Rally support truck. Granada? Banger



Ford Supervan 3 was a 1994 promo mash-up of Transit and C100 Group C racer.



racing. Even the humble Ka has its own endurance series, fiercely contested and massively fun.

Fords have competed in almost every form of motorsport you could imagine; and so many Fords are motorsport icons that it wouldn't

just fill one bookazine – it would pack out a multi-volume encyclopaedia.

For Ford, motorsport is in the genes. Ford's involvement in competition predates the firm itself. Before Henry had established Ford Motor Company in 1903, he'd designed his own racing car, which in October 1901 he drove to victory in a ten-lap battle against pioneering racer Alexander Winton.

The following years witnessed Ford set a record-breaking 91.37mph top speed on an ice track (1904), introduce the revolutionary Model T (1908) and launch the first mass-production V8 engine (1932).

Of course, a couple of world wars (to which Henry Ford was opposed) interrupted the progress of motor racing, but the era saw the sport splinter into different forms; Grand Prix circuit racing was the European pinnacle, while the USA favoured drag racing on quarter-miles – where ex-servicemen often competed in self-built hot rods – and stock car racing on oval speedways. Fords were always well represented.

Rallying had been around almost as long as the motor car, with the Monte Carlo Rally first held in 1911. It wasn't until 1936 that a Ford won the event

(a Model 48 convertible), followed two years later by a V8 coupé.

British-built Fords were a little slower off the mark, but Anglia driver Ken Wharton took victory on the initial Tulip Rally, held in the Netherlands in 1949; he repeated his success the following year in a V8 Ford Pilot, and again in 1952 behind the wheel of a Ford Consul.

A Zephyr was the first UK Ford to win the Monte Carlo, in 1953, driven by Maus Gatsonides (inventor of the speed camera, believe it or not), yet still there was no factory interest (let alone support) from the mighty Blue Oval.

Ford in Great Britain was dedicated to building economical family cars, and the notion of win on Sunday, sell on Monday (a phrase often attributed to Henry Ford but in fact coined by Harvey Firestone) was still to hit home.

But motorsport was gaining in popularity and public consciousness. Aside from Jeff Uren becoming the 1959 British Saloon Car champion in a Zephyr Six, the firm's image lacked any form of sporting flair. And it wasn't until Walter Hayes joined Ford's public affairs department in 1962 that



A Ford V8 Pilot scored success on the 1950 Tulip Rally.



Mk1 Zephyr on the Monte Carlo, crewed by Kastner and Utley.

INTRODUCTION TO MOTORSPORT



Jim Clark proudly displaying Ford power in his Lotus 49 at the Dutch GP.

the firm got behind the notion of competition success being reflected in the showrooms.

The first British Ford production car to cast a halo effect over the rest of the range was the Mk1 Cortina GT, which featured uprated suspension and brakes, plus engine tuning by Cosworth. Although admittedly a mild upgrade, the GT became an outright rally winner in 1963 – signalling the start of Roger Clark's association with the Blue Oval – and class winner in the British Saloon Car Championship with Jack Sears, who in other rounds dominated the circuit in an American 7.0-litre Ford Galaxie.

But that was only the start of a phenomenal career. By 1964 Ford had replaced the GT with the Lotus Cortina, and Scottish sensation Jim Clark took the title in style.

An extraordinarily talented wheelman, Clark would drive all manner of Ford or Ford-powered machines, including in the 1966 RAC Rally and Formula One; indeed, Clark secured Ford's first Grand Prix victory in 1967 while driving a Lotus-Ford featuring a Cosworth DFV V8, which would go on to become one of the world's most successful race engines, scooping 155 wins between 1967 and '85.

Ford continued to supply engines for Formula One until 2004, clocking up an additional 20 victories.

Meanwhile, Ford remained busy in almost every other branch of competition. The firm's famous foray into sports car racing resulted from its failed attempt to buy Ferrari – and determination to beat the Italians at their own game. The resulting American-financed/British-built GT40 eventually secured top honours at every Le Mans from 1966 to '69.

Of course, Ford hadn't forgotten its roots. The humble Kent Crossflow engine, introduced in the Cortina Mk2 and fitted to millions of Blue Oval-badged cars throughout the world, would in 1967 form the basis of an intensely competitive single-seater series – Formula Ford – which witnessed the first steps in the careers of James Hunt, Ayrton Senna, Nigel Mansell, Michael Schumacher and Jenson Button, among many others.

But it's the everyday car-based tin-tops that resonate most with British car buyers. When the Lotus Cortina made way in 1968 for the Escort Twin Cam (Lotus mechanicals in a shorter, sharper package), Ford created one of the most iconic shapes in motorsport history – and



a fundamental platform that's still scoring rally victories even today.

For 1970, Ford launched the Escort RS1600, which introduced the UK to the now-iconic Rallye Sport brand and highlighted Cosworth's considerable engineering prowess, with a 16-valve twin-overhead-camshaft powerplant.

Markku Alén and Ilkka Kivimäki in the iconic Mk1 Escort RS1600 on the RAC Rally.



Multiple models of Mk1 Escort – including Mexico, Sport and RS2000 – would become favourites on circuits, rallies and dirt tracks in the hands of professional teams and privateers.

There was nothing it couldn't do – rallycross, auto testing, hillclimbs and such like – so when the Mk1

was replaced by the Mk2 in 1975, motorsport success continued apace. As a factory-backed rally car, the Escort wasn't quite the most successful of all time, but in the hands of privateers over the course of four decades, nothing else could come close.

By 1980, Ford had dropped the rear-wheel-drive Escort from its line-up in favour of the front-wheel-drive Mk3 – a brilliant machine for the ordinary motorist, but not much use in motorsport. Plans to build a rally winner were gradually abandoned (the RS1700T) and

INTRODUCTION TO MOTORSPORT

legislated out of existence (the Group B RS200), and saloon car racing one again became the focus.

Ford's 3.0-litre Capri (not to mention RS2600 and RS3100 specials) had achieved limited success on circuits, but by the mid-1980s were becoming outclassed. Once again, Cosworth came to the rescue, developing an iconic turbocharged DOHC powerplant that would change motorsport forever.

The Sierra RS Cosworth of 1985 dominated racetracks between 1986 and 1990, and in evolutionary RS500 guise won every championship it entered. Such was its superiority that it was eventually outlawed by motorsport's governing body.

Yet Ford hadn't finished with tin-top competition. The Mondeo, although suffering a difficult circuit birth, received a blank-cheque development from the Blue Oval, ensuring it would win at any cost. And it did – scooping overall honours in 2000's British Touring Car Championship.

Meanwhile, Ford continued to campaign at top-level in the World Rally Championship (WRC). The



François Delecour's Cosworth yumping to victory on the 1993 Portuguese Rally.

moderately successful Escort RS Cosworth – itself evolved from the Sierra Sapphire Cosworth 4x4 – morphed into the Escort WRC for 1997 in the hands of Malcolm Wilson's M-Sport team.

By 1999, M-Sport had built the all-new Focus WRC, which over 11 years and two generations would win 44 WRC events in the hands of

some of rallying's biggest names – Colin McRae, Carlos Sainz, Marcus Grönholm and Mikko Hirvonen, to name a few.

Ford and M-Sport switched to the Fiesta RS WRC for 2011, replaced in 2017 by the Fiesta WRC, which continues to date.

Like every Ford in motorsport, the Fiesta WRC is a winner.



Drifting into the future: Petter Solberg and Chris Patterson in their Fiesta RS WRC on the Rally de España.

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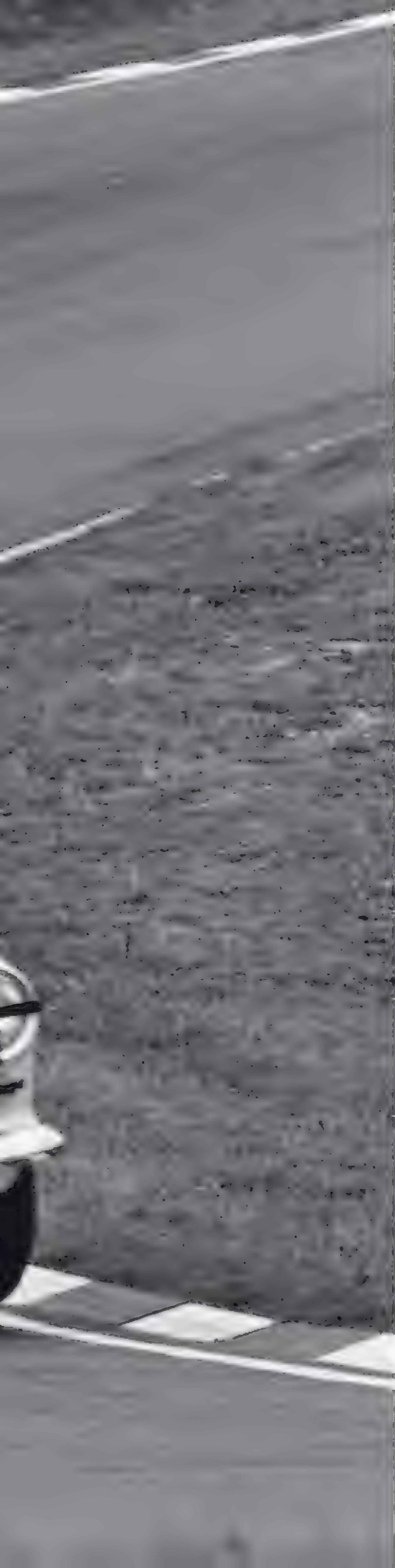
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LOTUS CORTINAS

Two of the three 1964 wheel-waving Team Lotus Lotus Cortinas in action at Brands Hatch, with Sir John Whitmore in the lead car.





Swing when you're winning

In 1964, the Lotus Cortina achieved legendary status thanks to its wheel-waving antics on the racetrack.

The story of the Cortina race car programme began in mid-1962, when Ford's Walter Hayes (newly appointed as the PR chief, with responsibilities for motorsport) knew that a high-performance GT model was due for launch in 1963, so he called his old friend Colin Chapman of Lotus, inviting him to develop a new twin-cam engined version: the Lotus Cortina.

By Ford standards, this was a complex but minor project. Ford produced two-door bodyshells with various aluminium panels at Dagenham, Lotus re-engineered the chassis, arranged for its own new engine (as used in the Lotus Elan) to be fitted, and carried out assembly at the cramped Cheshunt factory on the northern outskirts of London.

VICTORY AT HOME

As far as factory-backed cars are concerned, this story spans six years — 1963 to 1968 — but it all took time to mature. The early Lotus Cortinas proved to be depressingly fragile race cars, so the Cortina GT became a stand-in, the Lotus Cortina only being competitive from 1964. But for that season the company was serious.

Although many British teams were waiting impatiently for the new twin-cam-engined car, Ford always made it clear that most of the factory support would go to Team Lotus in the UK, while Alan Mann Racing would attack the prestigious

European Touring Car Championship.

The wait was certainly worth it, for the new model had only been homologated in September 1963. Once the A-frame Lotus Cortina made its first racing appearance, it caused the sensation that Walter Hayes had always visualised.

To quote Paddy McNally of Autosport: "The Gold Cup meeting at Oulton Park saw the international debut of the then-recently homologated Lotus Cortinas. Although not the outright winners, they were tremendously impressive, and finished third and fourth behind the Ford Galaxies of Dan Gurney and Graham Hill."

But that was just the beginning, because the Lotus Cortinas were still running with only 145 bhp (standard cars had 105 bhp). For 1964, not only would Team Lotus get the job of running a serious British Championship effort, but Lotus's F1 stars Jim Clark and Peter Arundell found time to drive the cars. At the time, don't forget, Clark had just won his first F1 World Drivers' Championship crown.

Because of their front-wheel-waving antics in the corners, the Team Lotus cars, BJH 417B, BJH 418B and BJH 419B became famous and well-loved, with Ford enthusiasts in the spectating crowds.

The story of the British season is easily told. Jim Clark started all eight rounds in the BRSCC series, won every 2.0-litre class he contested,



Alan Mann Racing Lotus Cortina in the early stages of the 1964 Belgian 24-hour race, with Henry Taylor at the wheel. The black tape under the doors told the mechanics where to insert the side-lift jack for wheel changing. Extra driving lamps were only needed for night-racing when, at Spa, these cars could reach up to 130mph on the Masta Straight.

and even threw in three outright victories. Nothing could have been more emphatic that this. Once again to quote McNally: "The works Lotus Cortinas were well-prepared and exceedingly fast, proving capable of winning a race outright if the Galaxies absented themselves for any reason.

"Initially these cars suffered from understeering characteristics. But much development work was done in the steering department, and when fitted with thick anti-roll bars the cars were very rapid, even though their tendency to lift the front wheels made them unstable."

They were, indeed, a whole lot more sophisticated than the cars of their more powerful rivals, much lighter than any of them, and with a great deal better balance and chuckability – Jim Clark always making the most of this characteristic. He could not always deal with the 7.0-litre Galaxies, but the once-dominant 3.8-litre Jaguar Mk2s were humiliated and soon disappeared.

For 1965 the Team Lotus cars would be even faster, because BRM (with a development team led by Mike Hall, who would later move to Cosworth and design the all-conquering BDA engine) took on the race-engine development, and pushed up peak horsepower

figures for the slightly overbored 1594cc units to about 150 bhp at 7800rpm; because of homologation restrictions, they were still obliged to use standard-type Weber carburettors. But that, and the changeover to leaf-spring rear suspension, is another story.



Men at work: this was a late-1964 test session at Goodwood, where the AMR Lotus-Cortinas and the latest GT40s were both present. Among the personalities in shot were Alan Mann, John Whitmore, Graham Hill and Henry Taylor.



In 1964 Jim Clark started eight BTCC rounds in this Lotus Cortina, won three races outright, and became British Touring Car Champion.

LOTUS CORTINAS



Brands Hatch hosted a six-hour touring car race in the summer of 1964, which was dominated by works-backed Lotus Cortinas. This was the Alan Mann Racing example of John Whitmore (driving) and Peter Procter, which won outright.

VICTORY IN EUROPE

Alan Mann, almost unknown in 1963 until he came to manage his first team of Cortinas, and soon forgotten after he stepped down at the end of that decade, never looked for publicity — and rarely got it.

Yet here was a man whose teams won the British Saloon Car Championship, the European Touring Car Championship and the World Sports Car Championship; a man invited by Ford to build the first lightweight GT40s. And the man behind several film cars of the 1960s, including Chitty Chitty Bang Bang.

In 1964, at Walter Hayes's invitation, his hard-working team prepared self-developed Lotus Cortinas, which astonished everyone with their pace, versatility and reliability in the ETCC, where his star driver John Whitmore won five events outright and only missed out on the championship because a complex points-scoring system favoured the class-winning Mini Coopers.

As Mann was later quoted: "We built our own cars, all the time, everything. There was no input from Ford, little guidance, and none from Lotus. Team Lotus never offered

any help, nothing at all — and I never asked for any. Our cars were very different from theirs — you won't see pictures of John Whitmore's cars with the front wheels waving in the air, but Jim Clark's cars did that all the time. We did all our own rebuilds — and we had good budgets to run the team.

"We didn't have drawing boards, we did no drawing at all, we just used experience and careful preparation. I did a lot of the test-driving — I think that sorting out the chassis was part of the battle, and we had a completely different set-up from theirs. The Cortina was never a particularly easy car to drive, not compared with the Falcons or Mustangs of the period, anyway.

"You had to have a discipline over preparation and rebuilds, most parts had to be changed very regularly, then they were perfectly reliable. John Whitmore, well, he was amazingly fast, and very predictable — he could get down to a lap time in four or five laps, that's all he needed."

For the record, the most famous of the Alan Mann Racing (AMR) cars were BTW 297B, BTW 298B, EHK 489B and EHK 490B. Even with the so-called fragile A-frame



John Whitmore and Peter Procter won the six-hour race at Brands Hatch in this Lotus Cortina in 1964 — though it needed significant pit work on the rear axle to make sure it made it to the finish.

Lotus Cortinas, Alan Mann Racing's performance in 1964 was amazingly successful. Sir John Whitmore won five of the first six events he contested — one as demanding as the Brands Hatch Six-Hour, one as fleeting as the Timmelsjoch hillclimb in Austria — and the cars were always competitive, for they took second place on six other occasions.

There were only two failures. One came in the Spa 24-hour race (a non-ETCC qualifier), where Mann never expected the cars to last very long, and the final event, the Coppa Europa at Monza, where both the AMR-prepared cars blew up after

"They were a lot more sophisticated than their more powerful rivals, and with a great deal better balance and chuckability"



being beaten by two suspiciously fast Alfa Romeos.

Accordingly, there was never any doubt that the programme would be repeated in 1965. Just as competitive as before, by mid-season the team was using new leaf-sprung cars, John Whitmore was coming to the peak of his form, and the red-and-gold cars totally dominated the European series once again.

When Alan searched his memory in writing his autobiography, he reckons that the legendary racing colours were devised for recognition purposes, after their entry in the Nürburgring six-hour race, where

the pit crew's problem was that they found all the Lotus Cortinas looked the same as they passed at speed. At the time, Alan was driving a Ferrari as his road car, so used the famous Rosso Red colour, the gold being a fine contrast, which as Escort enthusiasts now know, costs a fortune to replicate.

To quote Autosport's seasonal survey: "John Whitmore was outstandingly successful, his Alan Mann Lotus Cortina proving to be both fast and reliable. He simply out-drove the opposition."

Alan remembers that year with great affection, finding the

programme remarkably relaxing, though there was hard racing: "But we always had trouble with the Alfas at Monza, and the BMWs at the Nürburgring."

He also remembers John Whitmore's speed and consistency: "I only had to ask him to drive quickly once. We were at Spa in the 24-hour race, and we knew we couldn't last 24 hours, but as Mercedes-Benz was there with a full works team, I wanted to wind them up."

After that, Alan Mann was drawn inexorably into the GT40 programme, and into building cars for films.



Twin peaks

One of the 1960s' most famous engines was the backbone behind Ford's success in racing and rallying: the fabled Lotus twin-cam...

Picture it: the date was 1959, Ford needed more powerful engines for use in racing and rallying. But the company didn't know how to do that. Suddenly, over the horizon, two possibilities appeared – one was that Keith Duckworth's Cosworth company started tuning the new ultra-short-stroke Anglia 105E engine, the other was that Lotus planned to make a small, light, road-going sports car – the Elan. The long-term result was the birth of the Lotus-Ford twin-cam engine, and of a dynasty of truly fast Lotus and Ford cars.

Colin Chapman of Lotus and engine designer Harry Mundy were close – Mundy had designed the Coventry-Climax FPF F1 engine of the 1950s, which Lotus (and Cooper) used so successfully. While Mundy was

Autocar's technical editor, Chapman learned about the rock-solid little Ford engine, heard that it would eventually stretch to 1.5-litres, and persuaded Mundy to scheme up a twin-overhead-camshaft conversion based on the engine's cylinder block.

In later years Harry insisted that this had only been a cheap-and-cheerful project (typical of Lotus's Colin Chapman at the time), which was constrained by having to retain the existing crankshaft, connecting rods, and even to use the existing camshaft as a jackshaft to continue driving the distributor and oil pump.

What happened in the next two years was complicated. Consultant engineer Richard Ansdale completed the detail design; the very first prototype engine was a 1340cc unit using the three-bearing crankshaft

bottom end of the Classic, and it produced only 85bhp.

There were breakages and problems, an enlarged (1477cc) engine was built, and Weslake was invited to look at the airflow characteristics. But it was not until the five-bearing 1498cc bottom end of the Cortina 1500 became available, and Cosworth carried out a root-and-branch rework of the porting, that 100bhp was achieved.

Even then, the helter-skelter progress to showrooms was not complete, because the JAP (JA Prestwich Industries) concern got the production contract to build road-car engines, the definitive 1558cc engine size was achieved (by a modest overbore), and the well-known rating of 105bhp was finally delivered.



Team Lotus Lotus-Cortinas, with approx 150bhp, dominated the British Saloon Car Championship in 1964 and again in 1965.

SALAD DAYS

The very first twin-cam-powered race car was the little Lotus 23 sports car that appeared in May 1962, and which Jim Clark drove at the Nürburgring, with a 1.5-litre engine producing a mere 104bhp. It was not until Cosworth was asked to race-tune the engines (the internal code for this project was TA = Twin-Cam Series A) that real power was achieved. In almost every case, those engines were powered by two dual-choke Weber carburettors, though fuel-injection (Tecalemit-Jackson, or occasionally Lucas) was tried on final developments at the end of the 1960s.

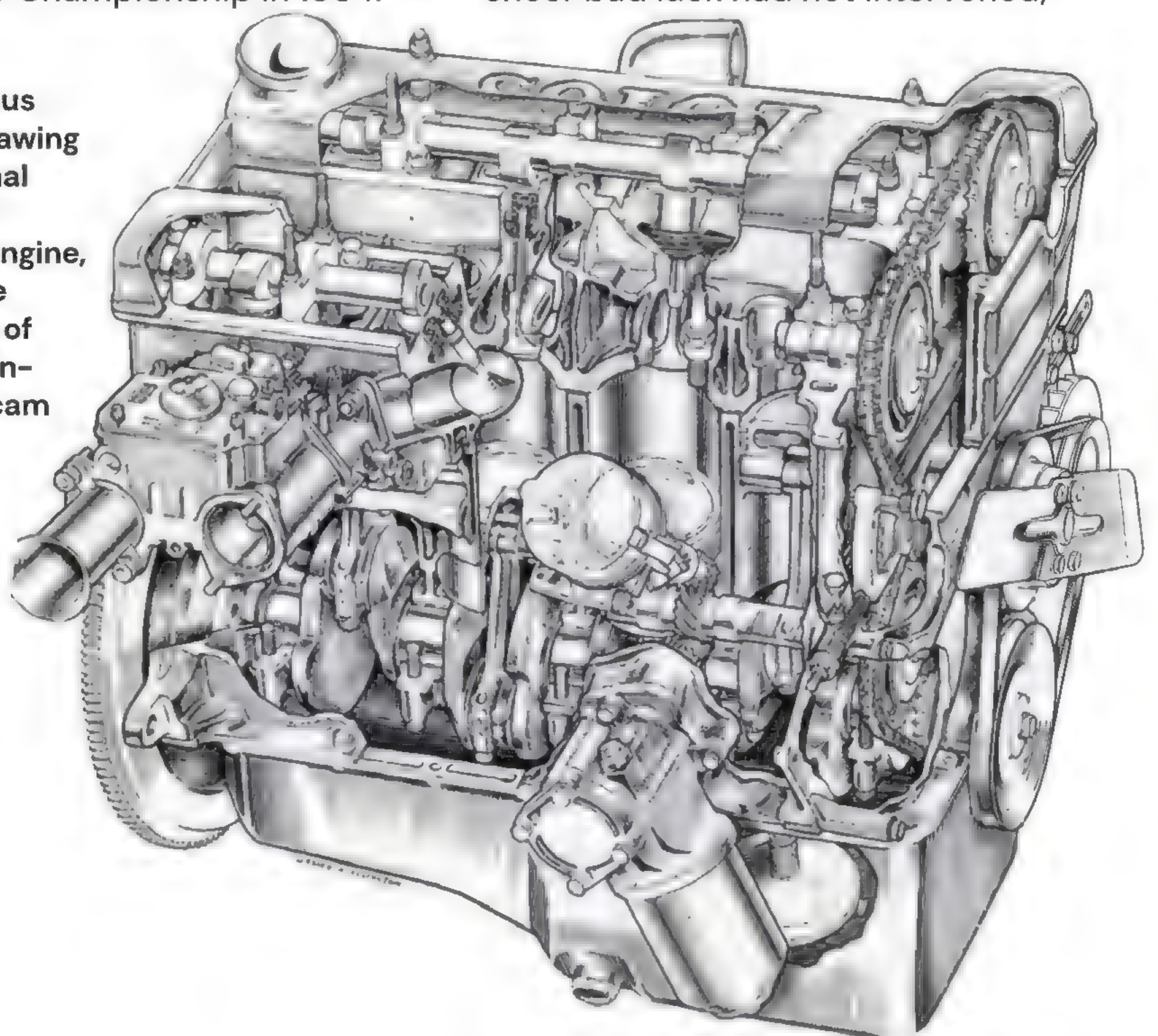
First of all, Lotus asked for engines to power Team Lotus Cortinas for saloon-car racing, when Cosworth used the 0.040in overbore allowance of current regulations to bring the engines up to 1594cc.

In this form they provided a reliable 145bhp. Not that the Cosworth engines were unbeatable, for once BRM started working on race-tuning the engines in 1965, they produced 160-to-165 bhp; they were well thought of at Boreham (which used them a lot), and are still respected today.

In 1964 and most of 1965, it was Team Lotus and Alan Mann Racing (AMR) who provided most racing headlines, all of which were fraught with problems of keeping the rear suspension and differential of the Lotus Cortinas in one piece.

Out in Europe, AMR won six long-distance races outright, while in the UK the combination of Jim Clark and Team Lotus secured the British Saloon Car Championship in 1964.

Ford's famous cutaway drawing of the original Lotus-Ford twin-cam engine, showing the complexity of the new twin-overhead-cam top end.



In 1965, AMR produced a magnificent red Lotus Cortina (KPU 392C) for Sir John Whitmore to dominate the European championship, and a similar combination won four more races in 1966 — all with 150bhp engines.

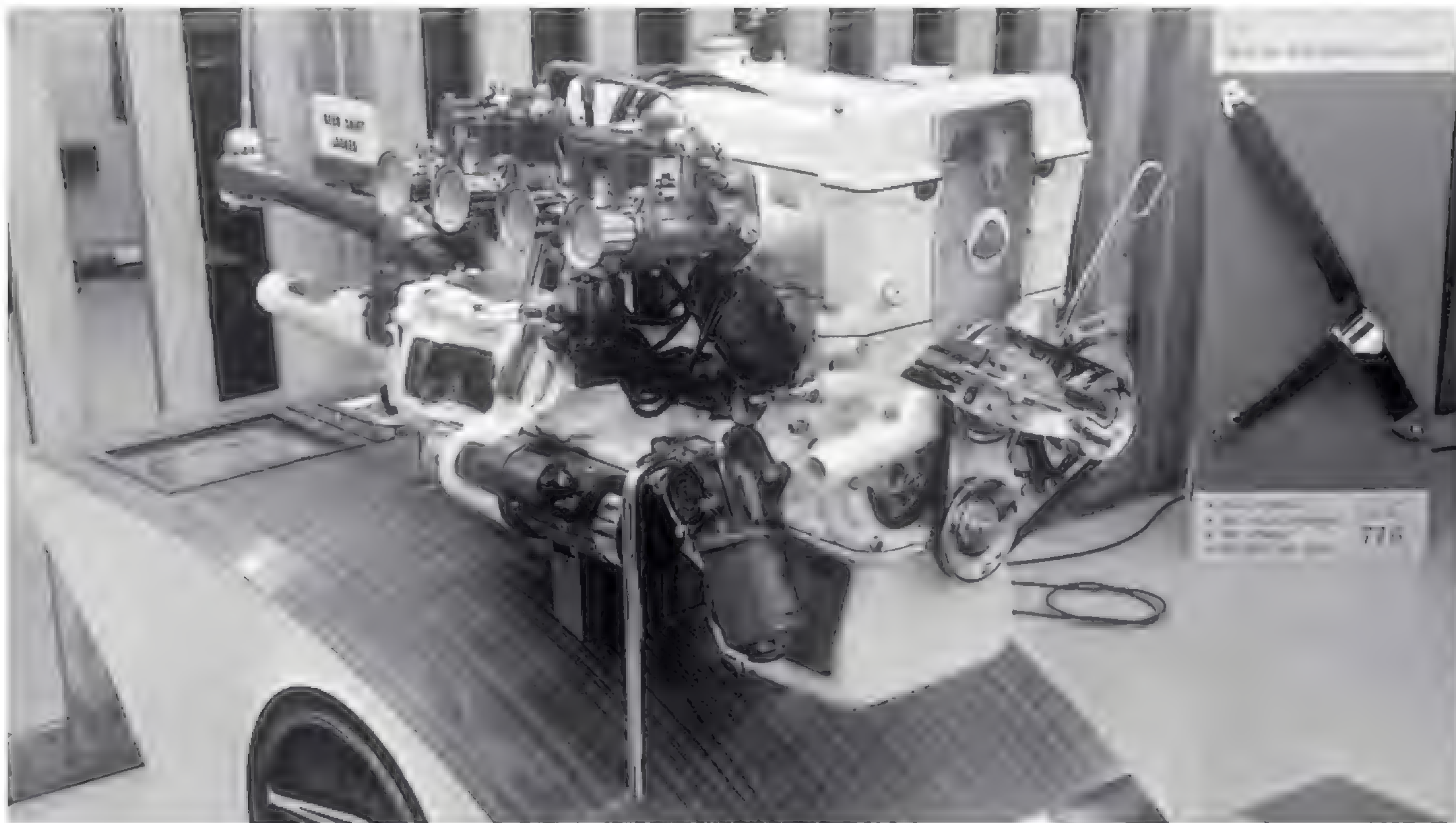
By that time Team Lotus was running BRM-prepared engines and winning several races, this not quite being enough to win the championship, which was still being marked on a class basis. By the way, the engine tune-up guru at BRM was Mike Hall, who later moved to Cosworth, and produced the BDA.

RALLY ROUND

Back at Boreham, the rally team struggled to make the chassis of the cars reliable, but provided one excellent performance in 1964, when Vic Elford and David Seigle Morris used ETW 362B to win the Performance Handicap section of the ten-day Tour de France. Even so, it was not until December 1965 that a works car won a loose-surface rally, the Welsh.

The works rally cars were then truly competitive for 1966, and would have won several events if sheer bad luck had not intervened,

LOTUS-FORD TWIN-CAM ENGINE



This display unit of the Lotus-Ford engine, complete with its Ford-based gearbox, shows how the architecture was dominated by two twin-choke Weber carburettors.

though outright victory in the RAC rally, and in the (1967) Swedish rally that followed, made up for a lot.

AMR won four more big events outright in Europe in 1966, and Team Lotus won three races outright in the UK. By this time the favoured engines were BRM/Cosworth hybrids, which produced at least 160bhp with Weber carburettors, or on occasion, up 175-to-180bhp at 8500rpm with Lucas or TJ (Tecalemit-Jackson) fuel-injection.

This, though, was the limit of what this eight-valve engine could achieve at 1.6-litres, and more was only available if Boreham was to run oversize engines in Group 6 form – a tactic that would follow in Escorts in 1968 and beyond.

In 1967, AMR and Team Lotus had stopped using Lotus Cortinas in motor racing, and Boreham had a rather restricted season, waiting for the Lotus Cortina Mk2 to be homologated. When this was done, Roger Clark won the Shell 4000 rally, followed by the Scottish rally; Ove

Andersson won the Gulf London marathon (in UVW 924E), the London car having TJ fuel injection; and Ford then held high hopes of winning the RAC rally once again before the event was cancelled at less than 24 hours' notice due to the worsening foot-and-mouth disease outbreak.

Running in parallel to this, Lotus had developed the mid-engined Lotus 47 racing sports coupé for British events. New in 1967, the nimble 47s either ran with 175bhp Weber 45DCOE-carburetted engines, or with up to 180bhp with TJ fuel injection, but it was already



Race cars based on the Lotus 46 (normally with a Renault engine) were very successful in the late 1960s. Think of this car, liveried in Gold Leaf colours for a flavour.

“Without the twin-cam there would have been no Lotus Cortina, and possibly no more fast Fords at all”



Even in 1967, when rival cars like Falcons and Mustangs threatened to overcome them, the Team Lotus Lotus-Cortina Mk2s, with 170bhp, were still race winners.

clear that there was no more to come, and that Cosworth's new 16-valve FVA F2 engine (205-to-220 bhp from 1.6-litres, and more when enlarged) would soon have the better of them. The twin-cam, of course, had been designed on strictly classic, two-valves-per-

cylinder lines, and simply did not breathe as deeply as the newfangled four-valve FVA, or the BDA that would follow it.

ESCORT TIME

Then came the Escort Twin Cam, launched in 1968, a race and

rally winner at once, and ultra-competitive until overhauled by the 16-valve BDA-engined RS1600 within three years.

Works rally cars with up to 150bhp won events all round Britain and Europe until 1970, while race cars prepared by Alan Mann Racing (the cars were limited to 1.6-litres to run in Group 2 trim) also battled on equal terms against 2.0-litre Alfas, BMWs, and sometimes even big V8-engined American machines too.

Perhaps the connection was tenuous, but in the UK, the AMR Escort Twin Cam of Frank Gardner won the British Saloon Car Championship in 1968 — but with a Cosworth F2 FVA engine — but this, at least, used the basic bottom end of the Lotus twin-cam engine.

Although the twin-cam's potential was limited by its eight-valve layout, it continued to be an extremely successful road-car power until 1975, when the very last of the Lotus Europa Specials was built.

Maybe it will not be remembered as the most powerful of all special Ford engines, but without the twin-cam engine there would have been no Lotus Cortina, no Escort Twin Cam, and probably no more fast Fords at all...



XOO 349F was probably the most famous Escort in the world. Having won the British Saloon Car Championship in 1968, using a Cosworth FVA engine, it was re-engined with Twin Cam power for 1969, when Frank Gardner won several races outright, in the same car.

Ford GT40: the complete story

The legendary GT40 was a world-beater, but there's a lot more to the story than its Le Mans victories. We dig a little deeper to bring you the entire epic tale.

Perhaps it's time to tell the unvarnished and glorious truth about Ford's GT40 programme, which started almost 60 years ago, back in 1963. Criticised at the time for being too big, too heavy and too simply engineered, the GT40 would in fact become one of the most successful Ford-badged race cars that was ever produced.

Too heavy? Because in most cases a steel tub was used. So what? Too crude? Because standard Ford-USA iron block engines were used? So what? Too simply engineered? Those Detroit-developed V8 engines again? So what? And in the majority of cases, these were actually British-built machines anyway.

These days, if you get into a pub-quizz argument, you can sum up the GT40's successes very simply. In five years, no fewer than 130 cars of all types were built, and only truly dedicated race-car builders such as Porsche could beat that.

Neither Jaguar nor Aston Martin could match it either. From 1966 to 1969 inclusive, Ford GTs won the Le Mans 24-hour race four times in succession. Jaguar couldn't match that – only Ferrari or later, Porsche, could get on terms with this feat.

BRITISH DESIGN

It all began in 1963, when Ford-USA was developing its new Total Performance image, when money seemed to be no object and when the company attempted to buy Ferrari. Although the Italian concern was interested at first,

enthusiasm evaporated when the Ford accountants came onto the scene. Ferrari pulled out of the deal and Ford (particularly Henry Ford II himself) was incandescent with rage, and the urge to beat Ferrari at their own game took shape.

Meanwhile, a new division called Ford Special Vehicles had been established in the USA, with Yorkshire-born Roy Lunn (ex-Jowett) in charge. When Ford speedily forged links with Lola of the UK (a tiny company based in Bromley, which had just built a mid-Ford V8-engined racing sports car), Lola boss Eric Broadley found himself working with this team.

What would soon become known as Ford Advanced Vehicles, a company run by ex-Aston Martin manager John Wyer, soon moved in to new premises in Slough (close to Heathrow Airport), and the very first mid-engined Ford GT prototypes were unveiled in April 1964. The plan was to start racing as soon as possible, and Henry Ford had high hopes of winning Le Mans at once.

The first cars used 4195cc V8 engines, with overhead-valve gear, aluminium cylinder blocks (as used by Lotus in its 1963 Indianapolis race cars), and Italian Colotti four-speed transmissions. Both those features would shortly be abandoned, but the basic steel chassis tubs and GRP bodyshells (and the style) would not.

The cars were so low that the door openings were swept over into the roof, which was almost exactly 40in from the ground – which explains



where the GT40 label eventually (but not at first) came from.

GROWING PAINS

Because this was a project where time was always the enemy – and where there was a constant (and growing) clash of personalities between the British and American factions – it took time to settle the specification, and for the first results to flow. In 1964 there were eight race starts (three cars started at Le Mans, for instance), but not a single car finished an event. The aerodynamic



handling problems were serious, while engines and transmissions gave trouble too.

Much was changed, therefore, for 1965, with management responsibility (and preparation of race cars) moving to Shelby American in the USA: this operation, which also included the assembly of AC Cobra sports cars, was based in a suburb of Los Angeles in California. In the meantime, the Slough facility prepared to start building the 50 cars that were needed to gain Group 4 sporting homologation; in the end,

nearly twice that number would be produced. These cars looked the same as the originals, but would have 4.7-litre engines with cast-iron cylinder blocks, and would use five-speed ZF transmissions. They would be available with right- or left-hand steering, and most would be pure racing cars, though a proportion would be made suitable for road use.

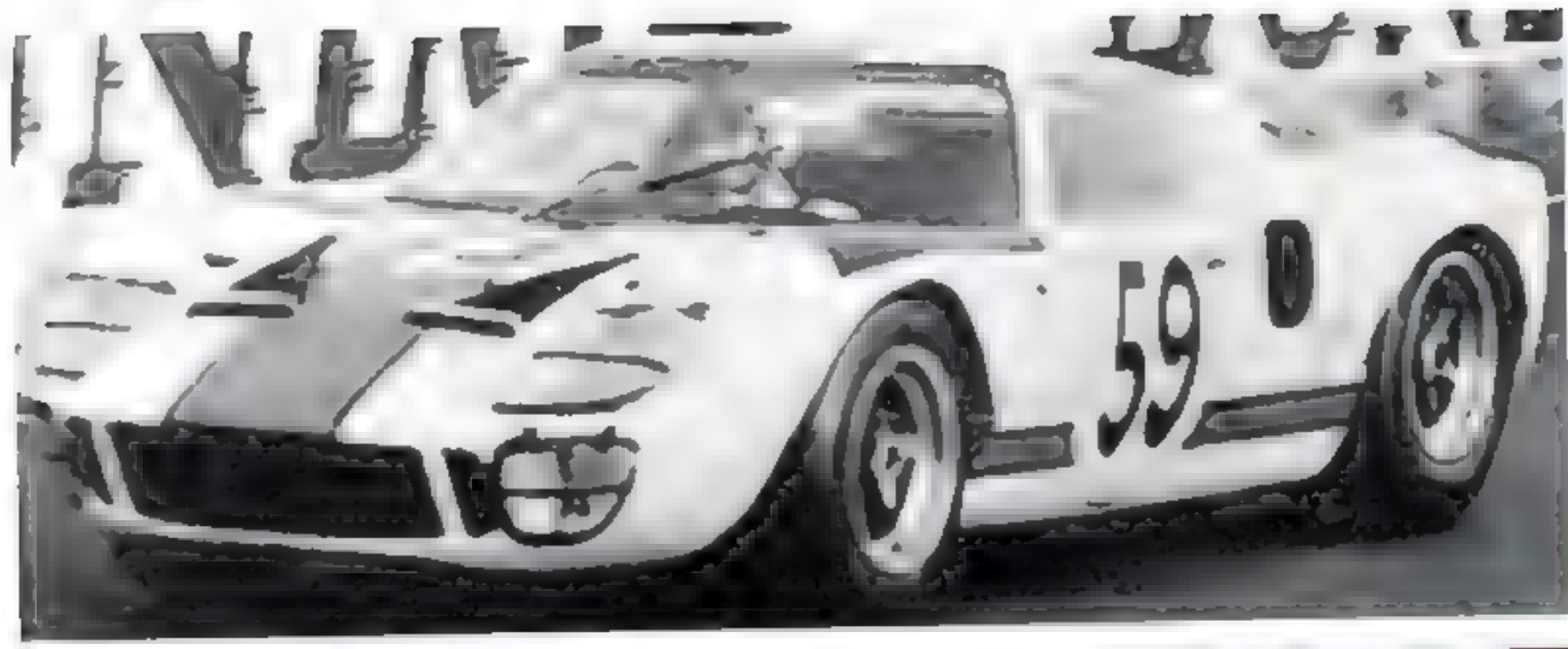
Along the way, Ford-USA had decided that its own works cars should have massive 7.0-litre V8 engines (similar to those used in the Galaxies seen in NASCAR and

in British saloon car racing), which would be matched to a new Ford-designed four-speed gearbox.

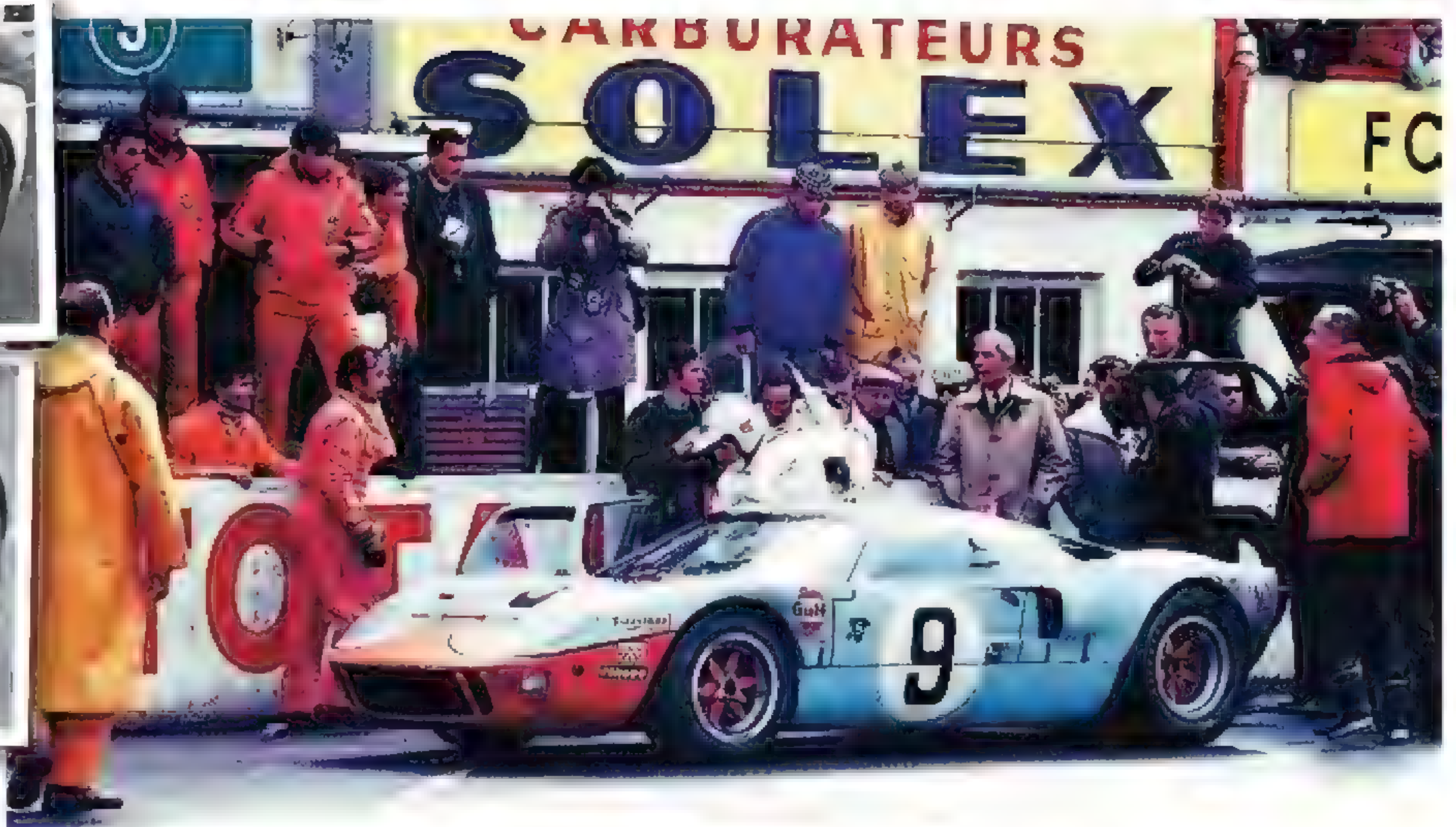
This derivative, which became known as the MkII, was purely for works racing use, and was never made available to normal buying customers. To tackle all this, and to oversee what was still to come, Ford-USA set up Kar Kraft, in Detroit, which Roy Lunn was to run, while Leo Beebe oversaw the entire race programme from Detroit.

Eric Broadley's Lola links came to an end in the summer of 1965 after

GT40



Same basic chassis, but two different styles. Top (number 59) is a production-shape GT40, and above (number 12) is the much changed Mirage version.



The Gulf colours may be the most iconic, but they didn't arrive until late in the GT40's lifespan.

two rather unhappy years, and this is the point at which Lola's name fades out of this story.

It is easy, therefore, to see how this project could have collapsed because of its complexity – with V8 race engines being built in Detroit, ZF transmissions coming from Germany, along with chassis tubs (from Abbey Panels) and bodyshells from Britain. In the meantime the design/development programme was based in Detroit, the works race cars with 7.0-litre engines evolved in California, and other special lightweight machines were built by Alan Mann Racing near Brooklands in south-west London.

RACE VICTORIES, AT LAST

By mid-1965 (and before delivery of cars to private owners could begin), 12 original cars had been built, of which three became 7.0-litre engined MkIIs, while at Ford-UK's request Alan Mann Racing eventually produced five lightweight versions of its own. This was the expansive period in which cars were also built with open-top versions of the style, with light-alloy chassis tubs, and even with automatic transmission – none of which came to fruition.

The race team finally got its first successes in 1965, notably in two important USA events (victory in the

Daytona 2000km and second in the Sebring 12-hour races), both with 4.7-litre cars. By this time, though, the team was fixated on 7.0-litre MkIIs, racing them for the first time at Le Mans in 1965, where they broke the lap record and led the event for some time, although neither car made it to the finish.

1966 – LE MANS SUCCESS, AT LAST

By this time, the GT40 programme was in full swing. Not only had Shelby turned the 7.0-litre MkII into a reliable race-winning machine, but Ford-USA/Kar Kraft completed

the first two 7.0-litre J-Cars, which featured an aluminium-honeycomb chassis tub and restyled bodywork, all hiding versions of the GT40/MkII engine, transmission, suspension and chassis components.

In addition, deliveries of customer cars had begun in earnest – race victories now started to mount up all round Europe – but John Wyer's FAV concern began the design of a sleeker, further-developed, version of the 4.7-litre car, which was called the Mirage.

This was the season when the USA-built works MkIIs not only won



Graham Hill testing an Alan Mann lightweight GT40 at Goodwood in 1965/1966.



Genuine series production of GT40s took place at Slough.

the 1966 Le Mans 24-hours (they finished first, second and third), but when they also won prestigious endurance races at Daytona and Sebring. As far as Ford's top bosses were concerned, it had taken a long time to reach these pinnacles, but it had all been justified in the end.

But in 1967 there was one more truly major success to record – this being yet another Le Mans victory against the massed might of Ferrari. With John Wyer/FAV sidelined in the UK, reduced to building production

cars and developing their own Gulf Oil-sponsored racing team, the massive works effort was now administered from the USA. Not only did another new model, the MkIV, make its bow, but it won the only two races it ever contested – the Sebring 12-hour, and the Le Mans 24-hour events.

This was quite remarkable, and tells us a lot about the can-do engineering spirit of Shelby, of Kar Kraft, and of the Ford enthusiasts who made it all happen. The MkIV,

in fact, was a direct development/descendant of the J-Car (which never tackled a major race), using the same honeycomb chassis, the same engine and running gear (from which well over 500bhp was easily available), but with a restyled and more voluptuous bodystyle.

Rushed through in time to dominate the Sebring 12-hour in March, the MkIV was then entered in numbers for Le Mans – no fewer than four of the works fleet of 12 MkIVs took the start.

GT40



John Wyer's Gulf-sponsored 5.0-litre GT40s were competitive in wet or dry conditions.

Competitive from the beginning, the fastest of the MkIVs reached an impressive 205mph on the Mulsanne Straight during the pre-race test weekend, and during the race itself the existing lap record was broken time and time again.

Even though two of the cars were eliminated by crashing into each other at the Esses, a MkIV was always in the lead, and (appropriately carrying number 1, and driven by Dan Gurney and AJ Foyt) finally won at the stupendous average speed of 135.49mph.

Ford, ruthlessly logical to the last, decided this should be the culmination of its works effort and immediately put all the sleek (and in some cases, unused/unraced) new MkIVs into retirement.

The Le Mans organisers, for their part, were so perturbed by the way that Ford GTs and GT40s had reduced the circuit lap record by 30 seconds in just four years, that they redesigned parts of the circuit to slow it down for future generations.

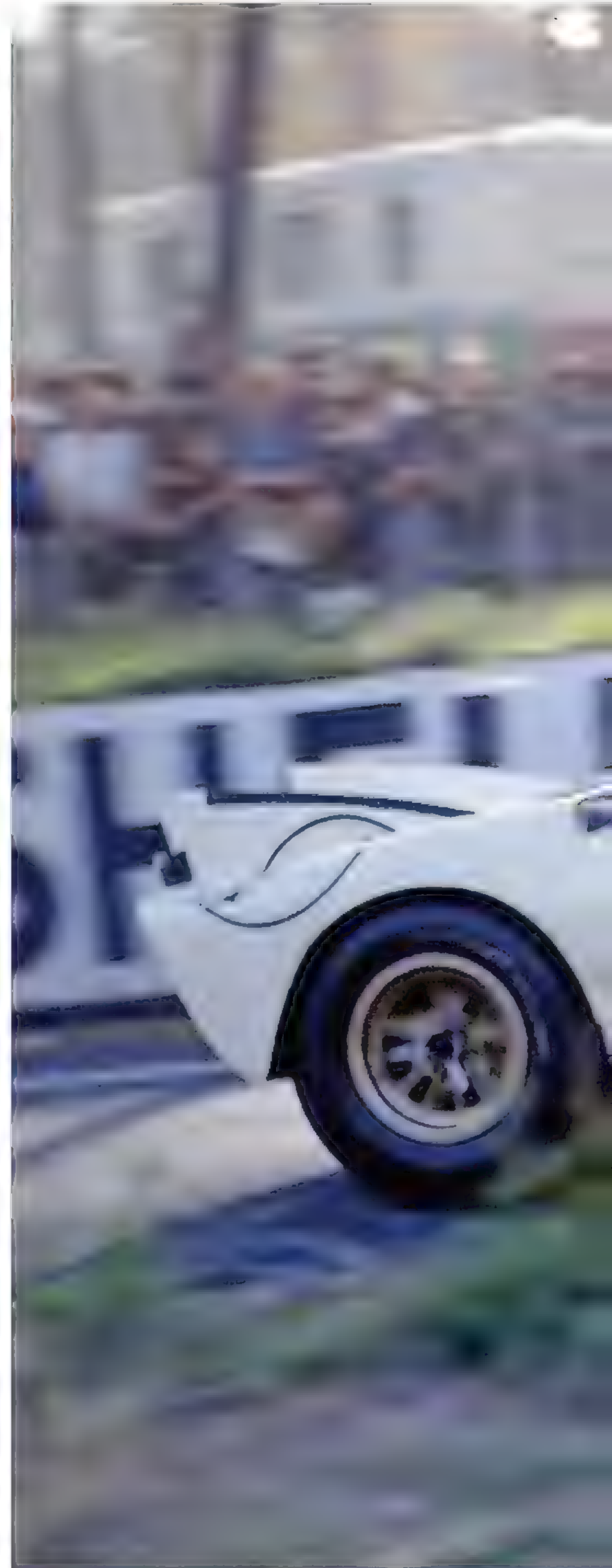
1967-69, THE GULF YEARS

It's altogether ironic, therefore, that the GT40's most successful

years followed after Ford-USA had effectively washed its hands of the entire programme. With the FAV factory at Slough closing down, and with no intention to allow MkIVs to be run by any semi-private teams, Ford was quite happy to hand over the plant and what remained of a world championship programme to John Wyer and his generous backer, Gulf Oil.

In 1967, the first year of this project, that effort was sometimes obscured or made more complex by Wyer's attempts to turn the Mirage (really a slimmed down GT40) into a winning combination, and by the fact that Ford threw megabucks into winning at Le Mans with the ultra-modern, and entirely different MkIV model.

But this was the year in which a variety of different versions of the V8 engine were employed, including a muscular 5.7-litre type produced by Holman & Moody. Weslake also produced a long-stroke 5.0-litre version of the 4.7-litre engine – this soon being joined by what became the legendary Gurney-Weslake cylinder heads. And when helped along by wider wheels and flared wheelarches, these cars proved to



be capable of 205mph.

The Mirage was good enough to win three major races – the Spa 1000km, the Paris 1000km and the Kyalami 1000km – but for 1968 a major rethink was needed because the FIA was bringing in a number of sweeping homologation changes.

Because the Mirage could not be homologated (only three cars had been produced), the team had

The MkII led at Le Mans in 1965,
but didn't make the finish.



to revert to the ageing GT40, and because the budget was severely restricted, JW Automotive found itself with only three cars with which to tackle the entire world championship programme and face up to the might of Porsche's 908s.

In 1968, the team habitually ran just two cars (occasionally three, but there was only one old, and overweight, spare car), and won

the BOAC 500, Monza 1000km, the Spa 1000km, the Watkins Glen Six Hours, the Le Mans 24 Hours and the Kyalami 9 Hour races.

This, along with several other back-up performances, secured Ford the world championship for that year, which was against everyone's earlier expectations.

It was asking a lot for JW/Gulf to repeat the trick in 1969, particularly

as they were obliged to use the same trio of old, well-used, though admittedly magnificently maintained machines. In fact, there would only be two significant outright victories – but since these were to be at Sebring, in the 12 Hours in Florida, and once again in the Le Mans 24 Hour race, the publicity rewards were enormous.

At Le Mans, for instance, driver

GT40

Jacky Ickx made many headlines by refusing to run across the road to leap into his car for the start, but instead walked leisurely into place and belted himself in before even firing up the engine.

At the end of the 24 hours, the very same driver/car combination fought a works Porsche 908 for the outright victory, eventually taking the win by just over 100 yards.

This was the point at which the JW/Gulf programme realised that the end was nigh, and the cars were gracefully retired at the end of the 1969 season.

TRUE ROAD CARS – THE MKIIIS

Long after the race reputation of the GT40 had reached its peak, and when Ford-USA was looking to close down the cramped little production plant in Slough, the company finally launched what it said (with bland innocence) was a true 'road car': this was the MkIII, which made its debut at the New York Motor Show in April 1967.

If the truth be told, this, the final derivative was a complete flop. Originally priced at \$18,500 (there was no UK price), at first it was claimed that two prototypes and 20 production cars would be built, but in the end only seven cars, in total, were ever constructed before the end of 1967.



The MkIV only raced once in Europe, at Le Mans in 1967, and won the race outright.



Two of the cars parading at Le Mans, after winning the race in 1966.

To make it more civilised for road use, the engine was detuned to 306bhp by reverting to a single Holley carburettor, the gearchange was moved to the centre tunnel, and 25-gallon alloy fuel tanks replaced the original type of rubber bag tanks. Seats were adjustable, inertia-reel safety belts were fitted, softer springs and dampers were specified, and there was extra sound insulation and padding in the cockpit.

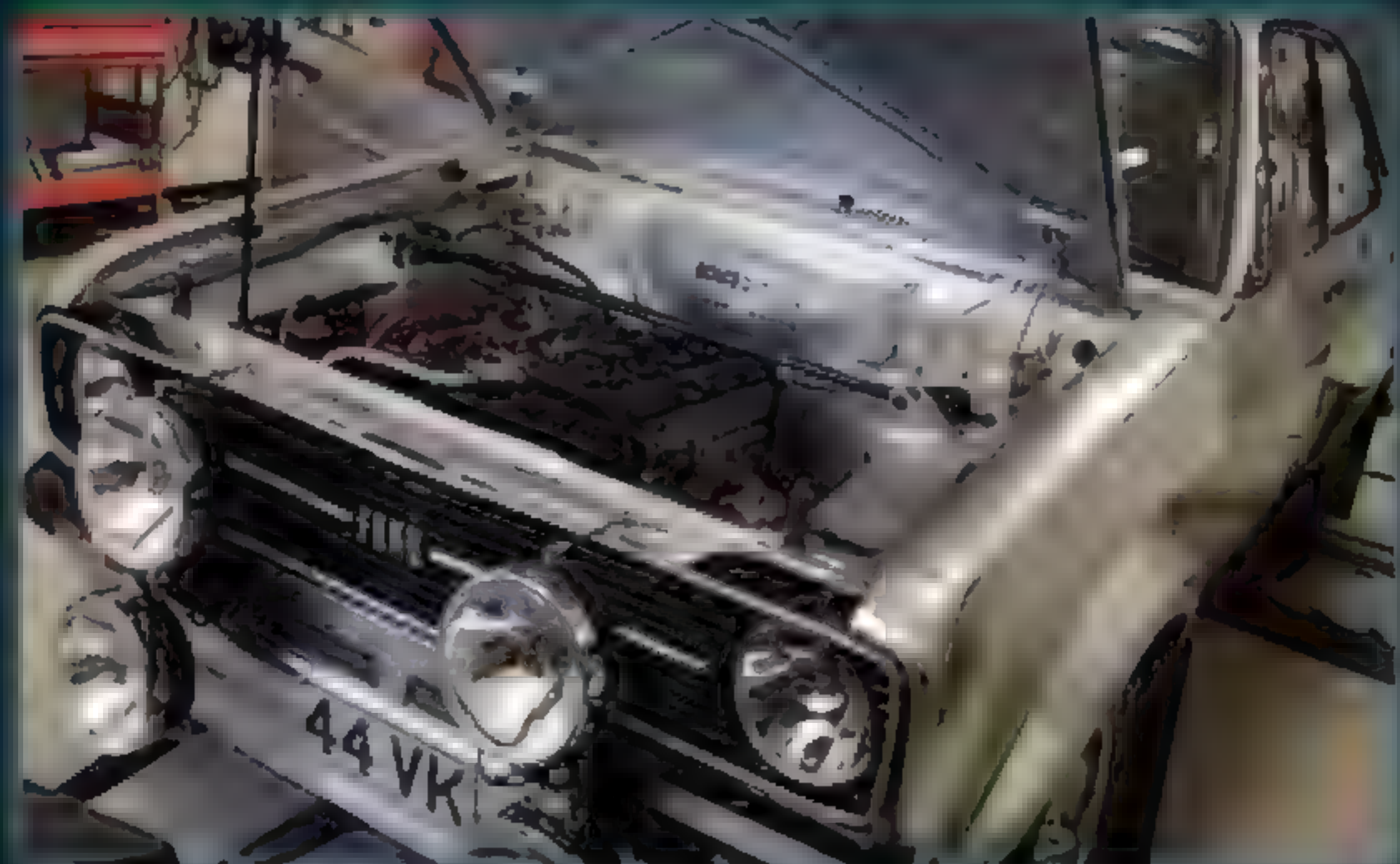
Not only that, but the front end was lengthened and restyled, with four headlamps, while the tail was slightly lengthened so that two luggage boxes could be accommodated on each side of the exhaust silencers.

A road car? Well, that's what Ford stated – but potential customers were clearly not as impressed, for the only three truly private customers were Daily Express tycoon Sir Max Aitken, J Candler (in the USA), and a German orchestral conductor, Herbert von Karajan.

This, though, is where the creation of genuinely new GT40s came to an end, for after the factory at Slough was closed down (JW Automotive took it over for the maintenance of the extremely successful Gulf-sponsored race cars in 1968 and 1969), the GT40 became effectively homeless and was completely forgotten (by Ford-USA, at least).

But not quite, for the revival of the car, first as a continuation series arranged by John Willment, then (along with Peter Thorp) as the Safir model, kept the GT40 spirit alive.

But that's a story for another day...



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CVH Escort /Fiesta Turbo	£2,395	£2,695	£3,050	£3,295	£695	£795	£1,195	£1,295
Zetec E1.6 1.8 2.0	£2,195	£2,395	£2,995	£3,295	£875	£1,095	£1,495	£2,450
Zetec S1.25/1.4/1.6	£2,195	£2,395	£2,995	£3,295	£995	£1,095	£1,695	-
2.0 DOHC 16V	£2,395	£2,650	£3,195	-	£995	£1,250	£1,795	-
OHC 1.6 2.0 Pinto	£2,095	£2,325	£2,695	£2,995	£695	£795	£1,195	£1,295
V4 Essex 1.7/2.0	£2,150	£2,450	£2,750	£3,050	£795	£895	£995	£1,150
V6 Essex 2.5/3.0	£2,295	£2,550	£2,895	£3,195	£995	£1,095	£1,195	£1,295
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Leading Mann

Team owner Alan Mann was never one to shout about his achievements — he didn't need to when those red-and-gold Fords took to the track and scooped up all the trophies.

From 1963 to 1969, Alan Mann ran one of the most successful racing teams in the UK, which set new standards (except for the very few top F1 teams who had a lot more money to spend). Whether it was with Lotus Cortinas, Falcons, Mustangs or Escorts, his company Alan Mann Racing always produced the most immaculate, competitive and usually reliable machinery.

Alan Mann himself was a car salesman who originally went motor racing (he once campaigned an F2 HWM all around Europe), but decided that he was not rich enough to buy front-line machinery, and that he was never going to beat Stirling Moss, so wisely drew back from full-time driving. Instead he set up a garage business in Sussex (along with Roy Pierpoint) that specialised in buying and selling racing cars. He eventually concluded that he was not going to be a millionaire in this venture either, so moved on to revitalise a Ford dealership near Brighton, and set up Alan Andrews Racing in 1962.

His first efforts were with Anglias and Zodiacs, which were prepared under Howard Marsden's supervision, and he drove himself, always admitting to his limitations.

FORD ON BOARD

In 1963, and never short of well-founded optimism about his potential, Alan approached Ford's then-competitions manager Syd Henson, asked for help with running a Lotus Cortina race car, discovered they were still in very short supply, and finally went ahead with a Cortina GT for Jimmy Blumer to drive in the



British Saloon Car Championship.

At the end of the season, this was one of the cars that Ford then flew over to Marlboro in Maryland, USA for a long-distance saloon-car race, and it was this outing that endeared him to Ford's Walter Hayes, who gave him the job of racing works-financed Lotus Cortinas in Europe during 1964.

The newly-formed Alan Mann Racing, which eventually adopted a splendid colour scheme of lustrous red cars with golden roof panels, immediately began winning endurance races where other Lotus Cortina entrants were encountering mechanical breakdowns.

Although Alan was ever-present at the races, his cars not only being immaculately presented but efficiently run, he could almost seem invisible at some of the events — he was rarely seen waving his arms around, and he never seemed to raise his voice — yet his team was always amazingly effective.

Operating from Byfleet, in modest premises, which had the sort of

ALAN MANN RACING



"Mann painted his Cortinas red and gold so that he could pick them out from the rest of the Lotus pack"

super-skilled mechanics who seemed able to turn outwardly ordinary Fords into winners, this maybe explains why the Monte Falcons of 1964 and the Mustangs that dominated the Tour de France of that year were so successful.

And as if he was not already busy enough with his race-winning Lotus Cortinas, Alan's business also went on to manage the prestigious and high-profile team of Ford-engined AC Cobras that won the World Sports Car Championship in 1965, and he was also tasked with building some of the lightest and best GT40 development cars in racing.

RED AND GOLD

Mann campaigned Lotus Cortinas extremely successfully from 1964 to 1968, and these were the machines that made his operation so enduringly famous in the sport.

Starting with cars liveried in the standard white-with-green side flashes, he employed mainly John Whitmore, Henry Taylor and Peter

Procter to cut a swathe through the opposition in the European Championship – this included six outright victories, and in 1965 he went even better by providing Whitmore with a brand-new Lotus Cortina – KPU 392C – in which he scored another six outright wins, and won the entire European Touring Car Championship.

Later he admitted that he re-liveried his cars so that he could pick them out from the rest of the Lotus Cortina fleet as they hurtled past the pits in the early stages of a race.

Observers often wondered how Mann could keep so many programmes going simultaneously and successfully, because he always seemed so calm about what was



A mass of Falcons being prepared under Alan Mann's supervision for the 1964 Monte Carlo Rally.

going on. In that single year of 1965, as an example, he had the Lotus Cortina winning all over Europe, a very competitive Mustang out in the same series, and Daytona Cobras competing in eight World Sports Car events (a series the team won, beating the might of Ferrari), all the time working on the development of lightweight Ford GT40s, and on the transformation of ex-Monte Falcons into British saloon-car racers.

TWIN-CAM TIME

After this, Alan was invited to run works-financed Escort Twin-Cams in Britain and in European championships, in 1968 and 1969. These rapidly became the world's best Escort Twin-Cam racers, especially after much of the engineering and new-design work had been carried out for him by Len Bailey, who had an office at his workshops in Byfleet.



What a famous combination — Frank Gardner, the Escort XOO 349F and AMR-preparation dominated saloon-car racing in 1968.

It helped, of course, that Alan had a direct line to Walter Hayes, so when he suggested the Escort might work well with the rare-as-hen's-teeth Cosworth FVA engine installed, a supply rapidly became available.

It was on Alan's behalf that Len Bailey was mainly responsible for the design of the sleek and lovely F3L racing sports car of 1968, which

was the world's first two-seater to use the Cosworth DFV F1 engine. This car looked gorgeous but was not a success, which was hardly Alan's fault for, at the time, he made the point that AMR was originally only allocated two of the precious DFV engines for the two F3L cars, and that they never did get a spare engine throughout an unsuccessful 1968 season.

This, of course, only tells part of the story about Alan Mann, and his Alan Mann Racing team's intense activities, for in a mere seven years they would be involved — always by accepting commissions rather than by going out to look for work — in a myriad of projects, some of which were very definitely kept under wraps at the time.

In 1964, for example, his team tackled the Monte Carlo Rally and other events in Ford Falcons, so nearly winning the Monte where a previous effort by another team had carried out a shambolic effort in 1963 (in 1964 Bo Lungfeldt's car was fastest, but lost out to Paddy Hopkirk's Mini Cooper S on handicap), he dabbled with 7.0-litre Ford Galaxies where Holman & Moody had already done much of the engineering, and later in the year he picked up the totally unproven

Mustang (which had only just been announced), entered three cars for the gruelling ten-day Tour de France, and saw them take first and second overall.

In the years that followed he became involved in the British film industry, though he never shouted about it. It was Walter Hayes who acted as his introductory agent,

by first of all having him meet Cubby Broccoli, then Ian Fleming (of James Bond fame), this soon leading to



The AMR-designed Ford F3L must have been of the most beautiful racing cars ever designed.

ALAN MANN RACING



Frank Gardner on his way to winning the 1967 British Touring Car Championship in the AMR Ford Falcon Sprint.

AMR being asked to produce four examples of Ford-based Chitty Chitty Bang Bang cars. At almost the same time, Alan was also invited to do work connected with the cars for the film *Grand Prix*, though he later complained that he had never been paid for this job.

Among other Ford-based projects was to build futuristic road cars for the UFO TV series, where the cars were Cortina-based under the skin but sounded like gas-turbine powered machines, and which featured lift-up gull-wing doors that the producers had demanded, though Mann always complained that there was not enough in the budget to make them counter-balanced.

His behind-the-scenes work for Ford Engineering to rectify the shortcomings of the Zodiac independent rear suspension was more successful, but was killed off by a lack of investment capital – at least, he later said, the Granada that followed was a much better car.

MOVING UP

Unhappily, in the late 1960s Mann did not seem to get on with Ford's

new boss, Stuart Turner, so at the end of 1969 his contracts with the company were not renewed.

This was the point at which he decided that AMR should be closed down (Frank Gardner took over the premises and some of the workforce), and Mann moved on to the next part of his life, which was to run a helicopter leasing business.

Later he also purchased Fairoaks airfield, near London, and expanded his aerospace interests, though by the 2000s he had been reunited with some of the cars that made him famous – and even bought back one

or two of them, restored them, and set them to race once again.

Although Alan died, far too young, in 2012, his sons carried on the family involvement in his most famous projects, and those magnificent red-and-gold machines can still be seen at major classic events such as the Goodwood Revival meeting.

One final comment, too, is that someone once said of the British Saloon Car Championship: 'If you want excitement in the pit lane, you need Ralph Broad – but if you need results, go to Alan Mann'. It summed him up completely.



Alan Mann Racing-prepared Mustangs on their way to winning the Tour de France in 1964.

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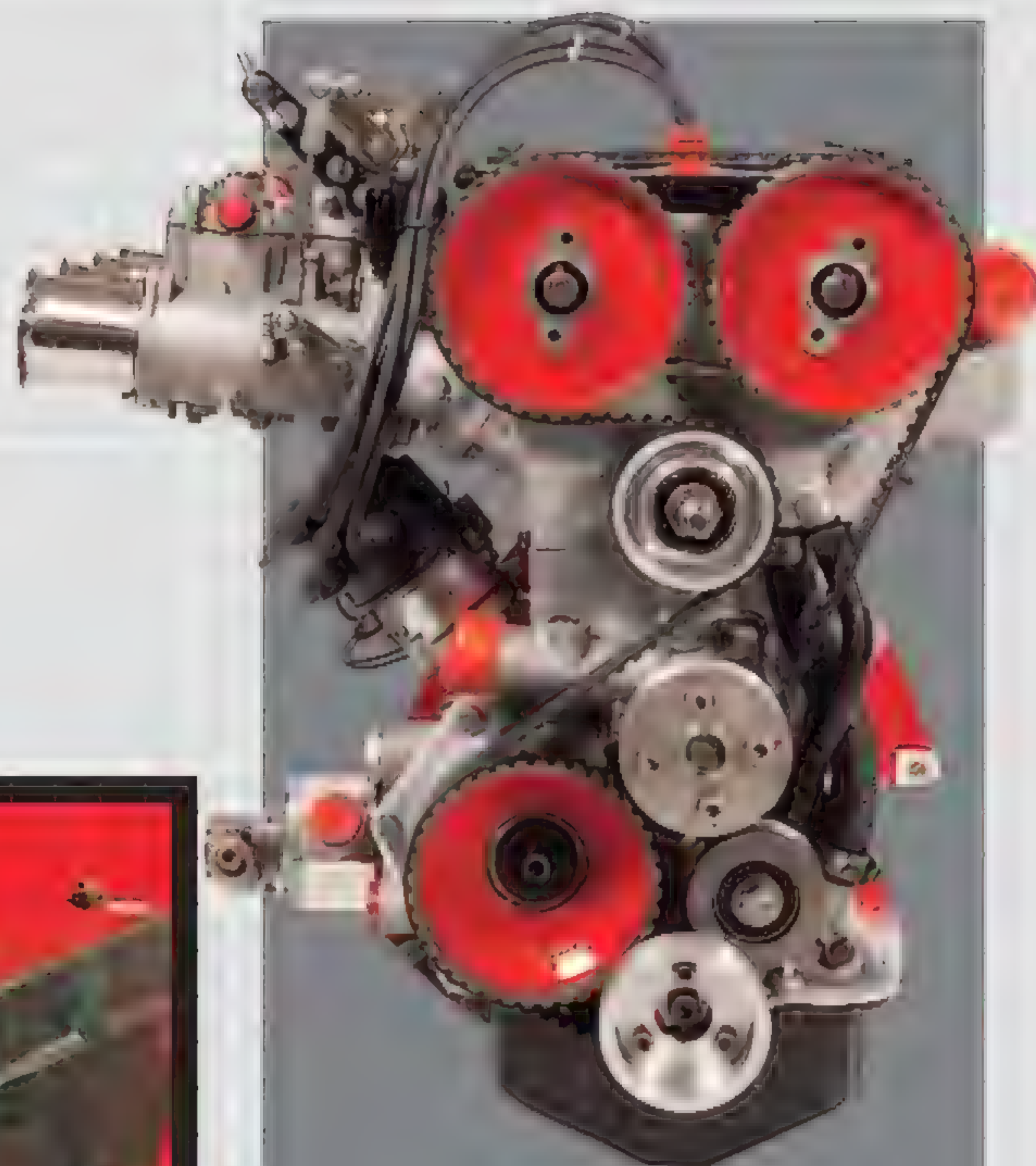
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The BDA engine

Ten facts you didn't know about Ford and Cosworth's legendary 16-valve engine.



THE CAM DRIVE

The camshaft drive of all BD engines was by internally clogged belt — whereas the FVA had used enmeshed spur gears for the same task. Comparative tests at Cosworth using BD top ends on the block, with the bore and stroke of an FVA, showed virtually no difference in power-tuning potential between them.

BDA ORIGINS

Walter Hayes, Ford's dynamic PR chief, was so enthused by the success of the Ford-based FVA F2 engine that he asked Cosworth to provide a 16-valve/DOHC road-car engine too. The result, the BDA, was totally different from the FVA, and not based on it. It was emphatically not a detuned version of the FVA — for the cylinder block, cylinder head, bore, stroke, capacity and camshaft drives were all new.

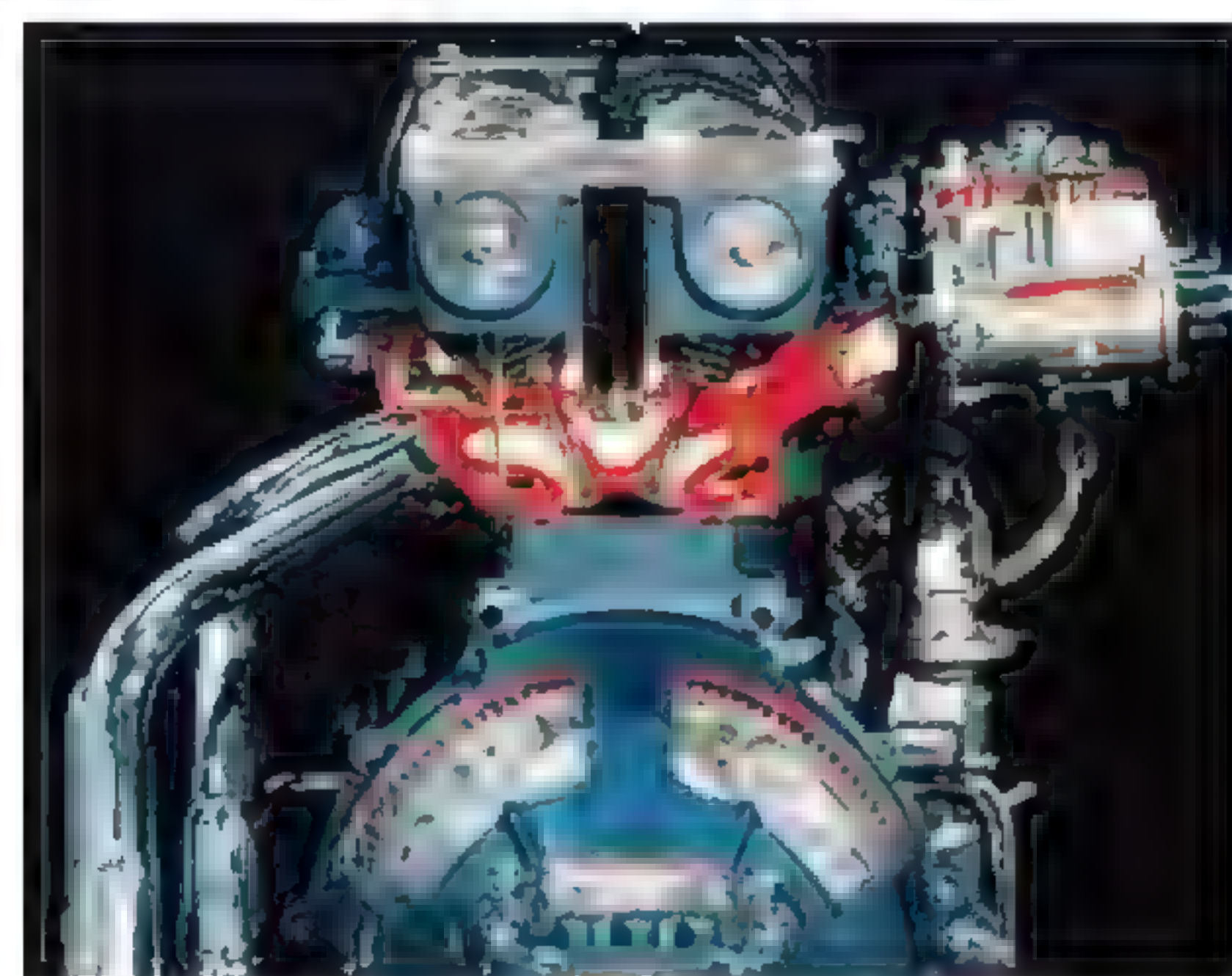


THE BLOCK

Developed around Ford's cast-iron Kent Crossflow cylinder block, the original BDA's bore and stroke dimensions were 80.96x77.62mm, which gave a capacity of 1599cc. When Ford came to use it in the Escort RS1600 road car, for homologation purposes these dimensions were quoted at 80.96x77.72mm/1601cc — the larger stroke dimension being the top tolerance dimension of the crankshaft machining details. Purely by chance (and if you believe that, you'll believe anything), this put the engine into the 1.6-litre to 2.0-litre class, and the sporting regulations always allowed the capacity to be enlarged towards the top limit of that class. Clever.

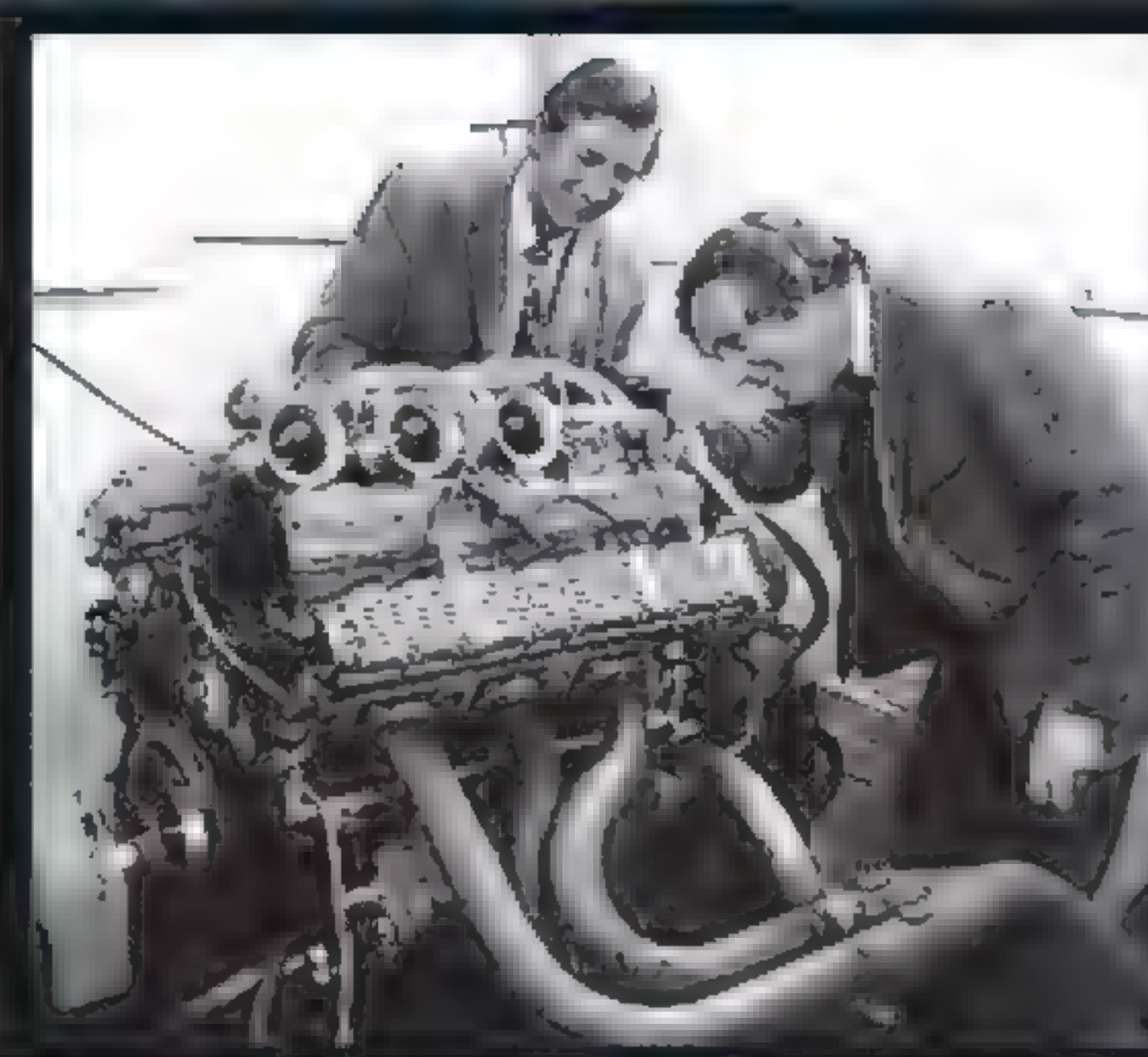
BDA PRODUCTION

Although Cosworth designed, developed and evolved the entire BD family, the firm never produced the engines in quantity — though it provided all the complex castings for the cylinder head. Over the years, road-car production was tackled by companies as varied as Harpers of Letchworth, Weslake Engineering, Brian Hart or JKF of Easton Neston.



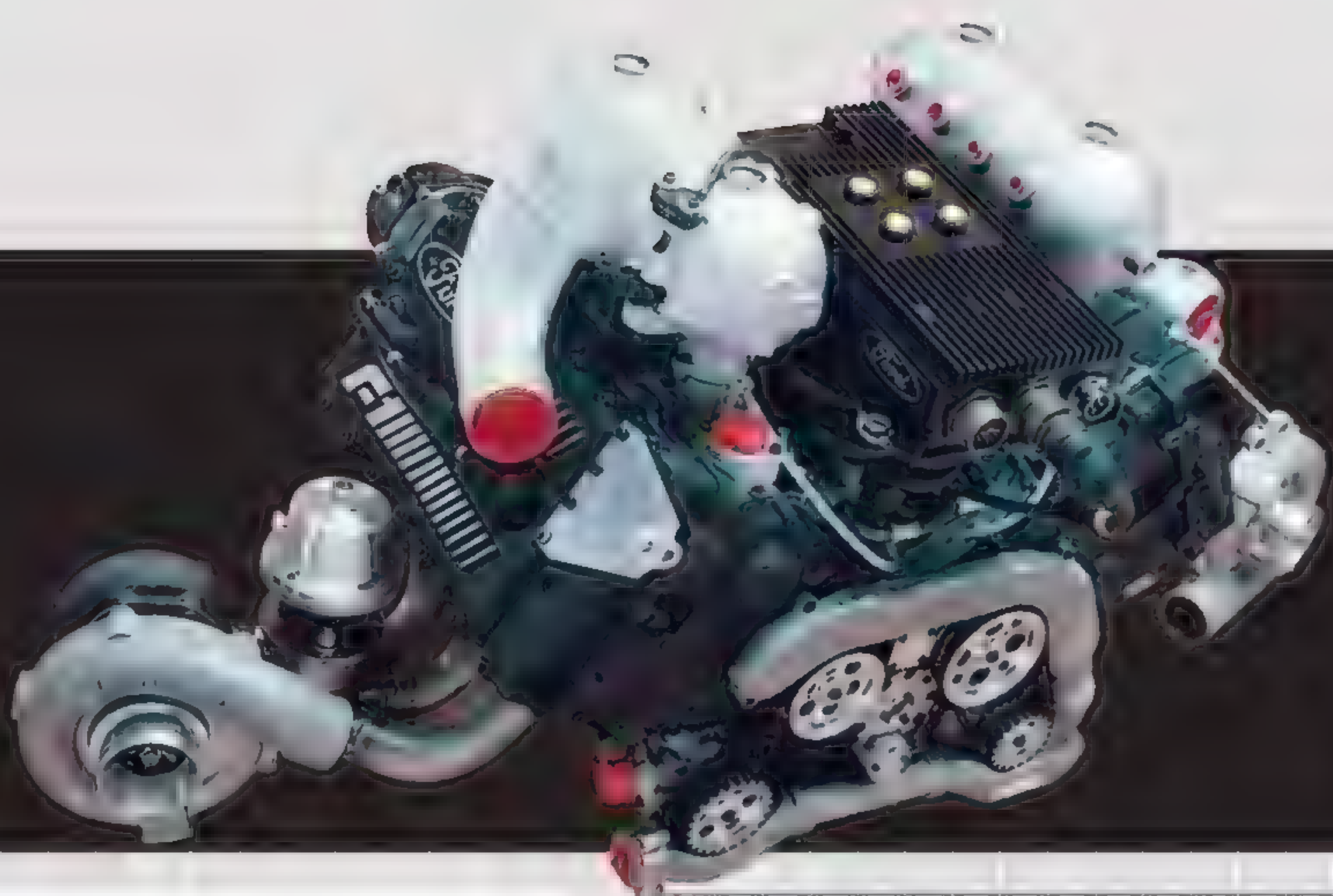
THE DESIGNER

Although Keith Duckworth had designed the original FVA in 1966, it was a senior colleague, Mike Hall, who was totally responsible for the layout of the BDA in 1968. Mike Hall (on the left) had recently joined Cosworth from BRM, where he had worked on that company's engines, and the race-tuning of the Lotus Cortina/Escort Twin Cam engines. Mike was always Ford's leading road-car engine designer.



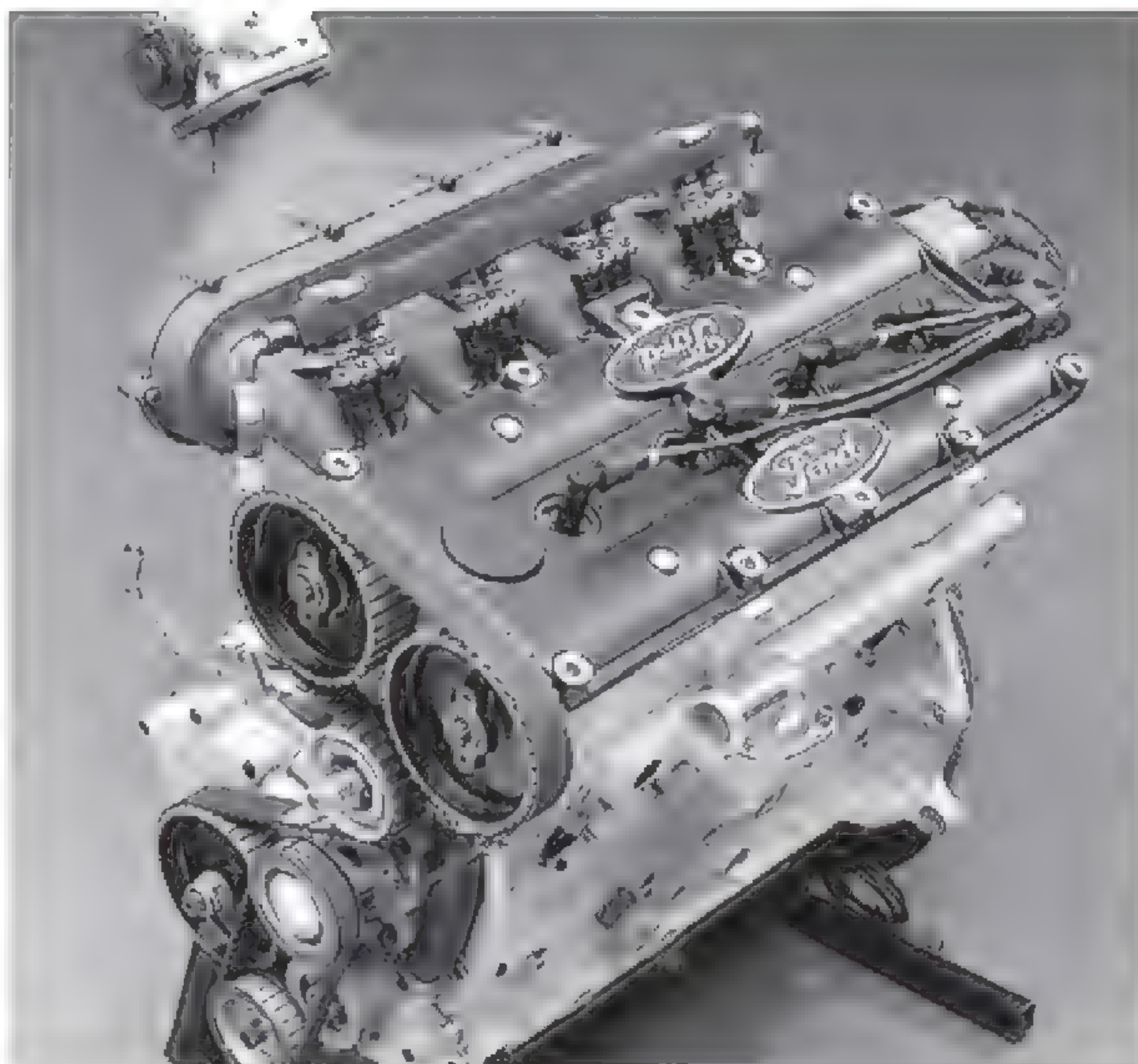
FROM RALLY STAGE TO F1

Against its better judgement, Cosworth was persuaded to produce a turbocharged 1.5-litre F1 engine in 1984, this being loosely based on the BDA power unit, though with a totally different cylinder head and a complex turbo/fuel injection installation. It was not a success, several spectacular test-bed blow-ups followed (one seen live on a TV documentary), so the project was cancelled – and was succeeded by the 1000bhp GB V6 turbo (right).



THE BDT

The final derivative of this engine was the BDT-E, a big-bore turbocharged 2137cc engine designed completely by Brian Hart in 1985–1986, with no reference to Cosworth. This was achieved with a stretched cylinder block/cylinder centres, which allowed space for the bigger bores. The initial 25 engines were intended for use in the RS200E evolution car (where, according to sporting regulations, their capacity was 2992cc),



but the cancellation of Group B meant that this project was cancelled. Approximately 50 BDT-E

engines were eventually produced, the most race-tuned types producing 650bhp.

ALLOY BLOCKS

The light-alloy cylinder block version of the BD, first seen in race cars in 1971, was designed by Brian Hart (below), not Cosworth. There were two reasons for this – one being to take weight out of the engine, the other being to re-core the block to allow a 90mm cylinder bore, which provided a 1975cc capacity. Ford first saw the light-alloy prototype in the winter of 1971/1972, instantly adopted it for use in the Escort RS1600, of which road-car derivatives (still of 1599cc/1601cc) were standardised from the autumn of 1972.



INDUCTION

Road-car engines were produced in 1599cc, 1803cc and 1835cc form, usually with Weber or Dell'Orto carburettors, or (in the case of the RS200) with Ford fuel injection and turbocharging. Works Escorts were usually rallied with Webers, but in later years with Lucas or even Kugelfischer fuel-injection.



ADAPTABLE – AND LONG-LASTING

BD types were enormously versatile, in road cars and competition cars. For motorsport use, there were versions of only 1.1-litres (which required the use of the smallest Kent cylinder block) and as large as 2.0-litres (the famous BDG, as used in hundreds, if not thousands, of competition cars). Although series production, which had started in 1970, ended in 1986 (with the RS200 and RS200E), Cosworth continued manufacturing complete cylinder blocks and cylinder heads until the 2010s.





Zak attack

Zakspeed's take on 'the car you always promised yourself' is the stuff of motorsport legend, and with the power, pace and sheer spectacle these silhouette Mk3 Capris offered, it really isn't hard to see why...

Ford's history of motorsport success means the Blue Oval's participation, be it at the most basic of clubman levels or in an FIA-approved series like the WRC, is a given, but it wasn't always like this. Indeed, you only need go back as far as the late 1970s to find a time when Ford's motorsport endeavours were rather less concrete.

Much of the decade had been a huge success, with high-profile rally success courtesy of the Group 4 Escort and a consistent (if somewhat depleted) presence on the F1 grid thanks to the Cosworth

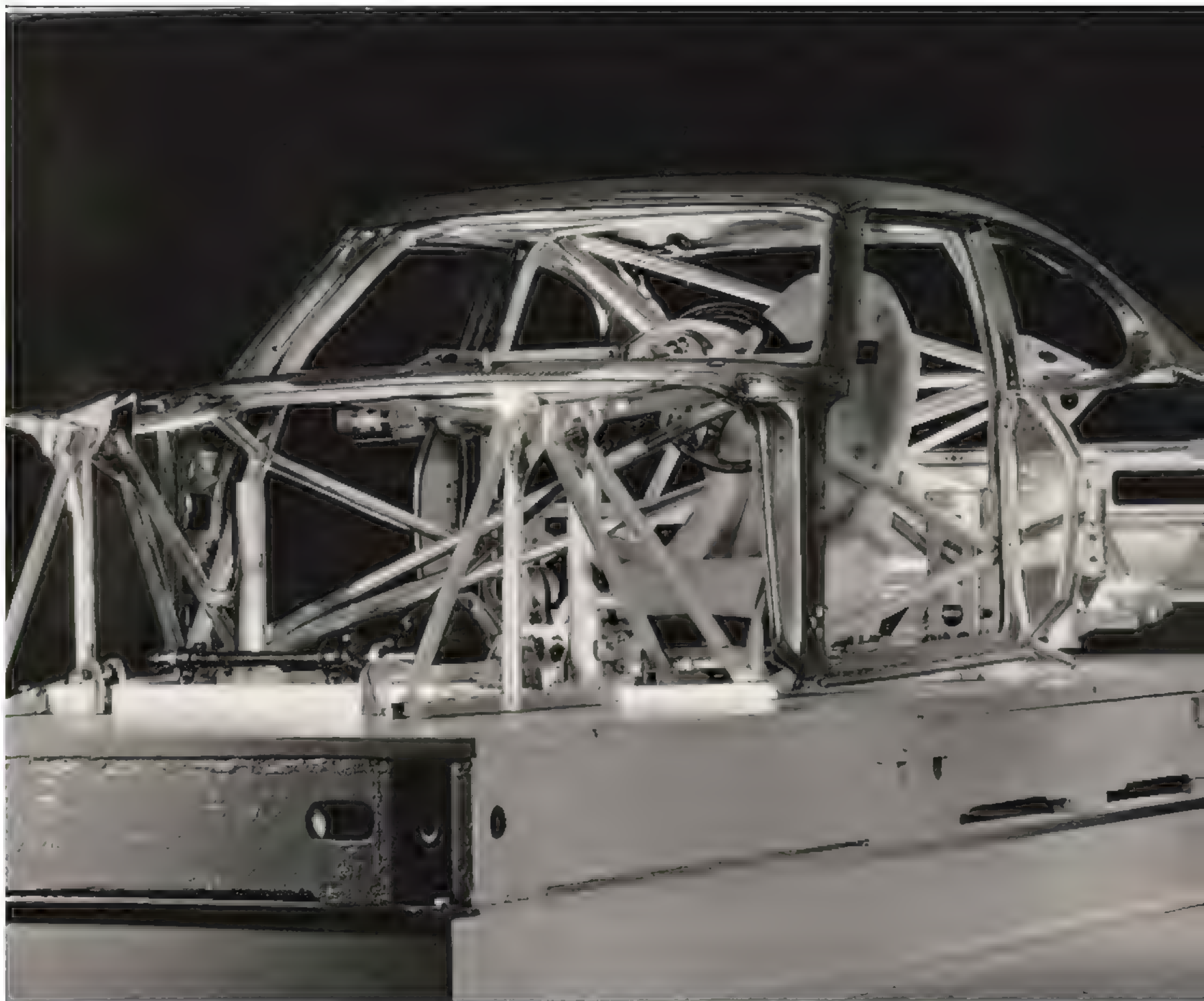
DFV. That being said, the oil crises of 1973 had served to blunt the company's taste for traditional factory-backed campaigns, at least at the national level.

This was still an era when 'win on Sunday, sell on Monday' held sway though, and as such it made a great deal of sense to retain some kind of presence in European tin-top racing, in particular the DRM, the Deutsche Rennsport Meisterschaft. Ford of Germany's solution was to double down on its relationship with Zakspeed, a German race team with which Ford had enjoyed notable

success with Group 2 Escorts stretching back to the middle of the decade.

Running naturally-aspired Escorts was one thing, making the jump to Group 5 (introduced as the DRM's de facto formula from 1977 onwards) quite another. The need for a new race car coincided with the launch of the Mk3 Capri. The sense of developing a competition version of the new halo car was clear to see, and so Ford of Germany was given the go-ahead to begin the process.

Not that the car eventually cooked up by Zakspeed had anything in



There wasn't much of the original Capri that made it into the race cars.



Klaus Ludwig/Jochen Mass lead the Porsche 935-K3 of John Fitzpatrick/Axel Plankenhorn/Dick Barbour, in the 1980 Nürburgring 1000 Kilometres.

common with the road-going Capris churned out by the million by Ford's Cologne factory just down the road. Maybe the roof and a few little other bits, but that's about it. Group 5 rules were effectively a silhouette formula and stipulated merely that everything above the wheelarches be as Ford intended. Or at least where they were meant to be placed.

There was no thought given to retaining the road-going Capri's proportions, not when there were mammoth BBS wheels to house and airflow to sculpt and exploit. The car eventually created was a far cry from the CFD-honed machines we've since come to know, but it was doubtless effective. It can't have hurt that the rear wing was, and indeed remains, one of the finest ever to grace a race car.

Not that Zakspeed's outlandish bodywork revisions were rendered in anything as primitive as steel. Kevlar,

ZAKSPEED CAPRIS

GRP and delicate thin aluminium were the order of the day, with the end result being a car that tipped the scales at just 790kg.

The open-ended nature of the regulations could be seen in the engine powering the Capri, with Zakspeed able to select from any four-cylinder unit in Ford's expansive globe-spanning range. The trusty Kent-based BDA was therefore selected and pressed into active service, though only after it had been re-engineered and fitted with forged pistons, fuel injection and a pair of KKK turbos.

The resulting 1426cc engine was potent but peaky, and making use of its 380bhp was a challenge for even the most skilled of drivers, particularly given most had previously been accustomed to either high-revving, small-capacity twin-cams or lazy, old-school V8s. It also had an irritating habit of lurching its bottom end, hardly surprising when you consider the era in which it was built and the power it was making.

There would be further revisions to the engine as the seasons rolled

by, among the most significant being the decision to swap from twin turbo to a single, mammoth KKK in time for the 1979 season. Cooling was also improved via the fitment of a veritable battery of intercoolers, oil coolers for the engine and the rear axle, plus the more obvious assortment of scoops and vents.

The Capri's initial performances over the course of that debut season were solid if not exactly spectacular, with a couple of podiums and a lone win interspaced with several high-profile retirements. The team's efforts were mainly focused on improving reliability and driveability over the winter of 1978.

Success in the DRM's Division Two soon followed for the Capris of Hans Heyer and Harald Ertle, though it was clear that both the Capri and the team running it were made for greater things. One thing led to another, and by the middle of 1979 work was well under way on a new, more powerful Capri for Group 5's premier class, Group 1.

The need to make the car competitive against the likes of the

Lancia Beta Montecarlo Turbo, BMW 320i Turbo and Porsche 935 sent Zakspeed's engineers scurrying back to the drawing board. The Capri would need to put out at least 600bhp if it was to have any hope of being competitive, so the engineers set about stripping and re-engineering the stalwart Kent engine once more.

Quite how seriously Zakspeed took the DRM was reflected in how far it was willing to go to be competitive, which for Group 1 involved the design and manufacture of special, near-bespoke aluminium blocks. The engine was also bored to within an inch of its life, with new pistons, crank and rods, and a capacity of 1700cc. Power was reckoned to be 600bhp, a figure that varied depending on boost levels, but which was almost certainly on the conservative side.

The 1980 season would be promising and frustrating for the pairing of ace driver Klaus Ludwig and the crack engineering outfit. There were victories for the new car in Group 1, true, but the team's rivals





Wowing the crowds at the Goodwood Festival of Speed.



lodged complaints with the powers that be pertaining to the Capri's outlandish aero. A mid-season redesign duly followed, which eventually saw the Capri make use of the then-new concept of ground effect, with extended skirts on both sides.

The revised, ground-hugging aero had a transformative effect on the Capri and helped it surge to the front of the grid once more, but the damage had been done – the 1980 DRM title went to the Lancia Beta Montecarlo of Hans Heyer (a former Capri pilot in the previous 1979 season).

The following season would prove to be the high point of the Capri's career in Group 5, though it still provided plenty of drama and intrigue. Owing to the complex manner in which the championship was structured, either Group 1 or Group 2 cars could potentially win, and so it proved; Klaus Ludwig emerged victorious in the older, less powerful Group 2 Capri.

In fact, Ludwig's performance was nothing short of a demonstration of Group 5 domination. The Group 2 Capri – now making north of 475bhp and wanting to belch three-foot jets of flame at regular intervals – took the top step of the podium at ten of the 13 races. Ludwig was crowned champion and the Capri, at least in works form, was pensioned off with indecent haste.



Group 5 rules allowed Zakspeed to create one of the most aggressive-looking race cars ever.

On the right track

The British Touring Car Championship celebrated its 60th anniversary three years ago, and ever since its launch in 1958, the BTCC and fast Fords have gone hand in hand. Here's their story...

For many Ford fans, the British Touring Car Championship is evocative of the Blue Oval's motorsport heyday, when big-winged Sierras dominated the track, and the cars we saw on the streets and showrooms weren't far removed from their competition counterparts.

Today, of course, the British Touring Car Championship isn't quite so high-profile, and the machines themselves don't exactly resemble the cars we can go out and buy.

But the 2021 season's Mk4 Focus ST is still recognisably a fast Ford. And, although it's not quite where fast Fords belong – leading the pack – it's grabbing podium positions and promising a bright future.

Ford's long and illustrious association with the British Touring Car Championship dates right back to first ever season in 1958, when

the series was known as the British Saloon Car Championship.

Since then, we've seen Blue Ovals battling for race wins and championship titles – from the early days of the Zephyr, through highly-modified Mk1 Escorts and Capris, the total dominance of the Sierra RS500 Cosworths, to the ultra-expensive Mondeos of the Super Touring era. And the current crop of Focus ST BTCC cars are as nimble, high-tech, and as fiercely competitive as ever.

IN THE BEGINNING

While the very first BTCC of 1958 may be better known for the end-of-season five-lap shootout between Tommy Sopwith and eventual winner Jack Sears (to decide the title after both drivers ended the season on equal points) it's a lesser-known fact that a Ford also competed in the





inaugural season. Jeff Uren's Ford Zephyr may have slipped under the radar in 1958 (especially as it didn't complete for the full season, with Jeff also driving a Jaguar that year), but it certainly got noticed the following year when Jeff won the championship outright (with no need for any last-minute deciders).

That was the Blue Oval's first taste of victory in the BTCC, and over the years many more race wins followed for multiple different models, including the Group 1 Capri 3.0-litre (57 outright race victories, from 1974 to 1982), Group A Sierra XR4Ti

60 YEARS OF BTCC



Richard Longman's S1RS Turbo may not have been around for long, but its distinctive Datapost livery became a firm fan favourite.

(14 outright wins between 1985 and 1986), Group A Sierra RS Cosworth and RS500 Cosworth (43 outright victories, from 1987 to 1990), and the Super Touring Mondeo V6 (21 outright wins, from 1993 to 2000).

Since that first championship win in 1959, Fords have secured the BTCC crown nine more times, and would undoubtedly have scored many more had it not been for some

"We've seen Blue Ovals battling for race wins and overall Championship titles right from the early days of the BTCC"



ESCORT RS1300 – YES, REALLY

Early in the 1970s, Group 2 cars were allowed to use alternative cylinder heads, as long as (they claimed) 100 had been manufactured. For 1973, Ford got Cosworth to build a BDH engine, which was a short-stroke 1.3-litre version of the BDA, and got it homologated. With 190bhp, this was such a phenomenal Escort GT that it dominated the class. Indeed, it was so fast that the rule-makers swiftly banned it.



Prodrive Mondeos were reported to have cost over £1m to build.





CAPRI (ESSEX V6) ENGINE RATINGS

The BTCC Capris never had as much power as rumours would suggest – which explains why the 3.5-litre Rovers finally got the better of them in 1981 and 1982. Even with the homologated triple-Weber carburettor installation, the first cars only had 175bhp, but by 1978 the Gordon Spice cars had 220bhp. By 1980 the peak had been pushed up to 255bhp, but these were maxed out with no more potential for any further development.

rather questionable methods on how the championship title was decided on class wins rather than overall points scored; for example, in 1989 Andy Rouse's RS500 took six overall race wins, two second places, two thirds, and had three retirements, yet John Cleland's Vauxhall Astra GTE – whose highest finish all season was ninth, with two 14th, two 15th, two 16th, a 17th, a 19th, and a 20th place finish – claimed 22 more points than Rouse in the championship table.

ESCORTS AND CAPRIS

Ford's dominance in British saloon car racing can be traced way back – with cars like the Lotus Cortina winning every event in sight – but things started to get really interesting for Ford in the late 1960s and early Seventies.



Frank Gardner won the BTCC in 1968 in an Escort twin-cam.



The original Sierra Cosworth was already very competitive in the BTCC before the arrival of the mighty RS500 in 1987.

Carefully-engineered Cosworth FVA-engined Escorts (those iconic gold-and-red machines from Alan Mann Racing) gave way to white-hot Escort RS1600s (from Broadspeed) in 1971 and 1972, but with the regulations written to favour capacity-class dominating cars they struggled against Bill McGovern's 1.0-litre Sunbeam Imp.

Escort 'RS1300s' (using a short-stroke version of the RS1600's Cosworth BDA engine) were banned after just one year, so for 1974 Group 1 racing was introduced in its place.

GROUP A – WORLD-BEATING SIERRAS

Although Ford Motorsport had effectively abandoned Group A touring car racing, when Stuart Turner returned to the fold in 1983

he set about changing all that. He masterminded the birth of the Escort RS Turbo, then followed it with the Sierra RS Cosworth – both of which would become very competitive machines.

Richard Longman turned the Datapost-sponsored Escort RS1600i into a very successful 1.6-litre class car (the Escort RS Turbo followed), and Andy Rouse was persuaded to start a long-term Sierra development programme – initially with the Merkur XR4Ti, which was effectively a Sierra XR4i fitted with a turbocharged 2.3-litre Mustang engine.

Andy once claimed that he wasn't at all sure that the XR4Ti could win because he didn't fancy the engine's prospects. "But I was getting the chassis right for the Cosworth, which looked very good,"

60 YEARS OF BTCC

Legendary Texaco-liveried Eggenberger RS500s were some of the most successful touring cars ever built.



said Andy.

He needn't have worried. In 1985 he won nine races outright, and in 1986 he won five times. Not only that, but he also became drivers' champion in 1985.

Then came the glory days of the Cosworth-engined Sierras, which were to become the most successful touring cars anywhere in the world.

Dedicated work on the original RS Cosworth would probably have been enough to keep it winning, but Stuart Turner's bright idea of commissioning a more powerful limited-edition evolution version – the RS500 Cosworth – made it a certainty.

Once Ford had convinced the FIA that it had built all the cars in mid-1987, and a few wrinkles over homologation freedoms had been clarified, an RS500 would almost always win if it did not crash out due to adverse weather conditions

or a mistake by its driver.

In the BTCC, from 1987 to 1990, Sierras took 43 outright victories. More specifically, from the last two rounds of the 1987 season until the last race of the 1990 season, the RS500 won every single race – 40 in succession. For those three-and-a-half seasons, you automatically knew what car would win – the only question was knowing who the winning driver might be.

In 1988 there were some titanic battles between Andy Rouse and Steve Soper, while in 1989 every race was won either by Rouse (four wins) or arch rival, Robb Gravett (nine wins).

The Cosworth's dominance was so overwhelming that eventually the authorities moved decisively (by changing the regulations) to ban the turbocharged Sierra from every world, European and national race series. The RS500 was at the height of its powers, when the governing

body gave in to sustained complaints from BMW and Vauxhall, who wanted to run in a weaker series to favour their less-powerful 2.0-litre naturally-aspirated cars, and ban the Fords.

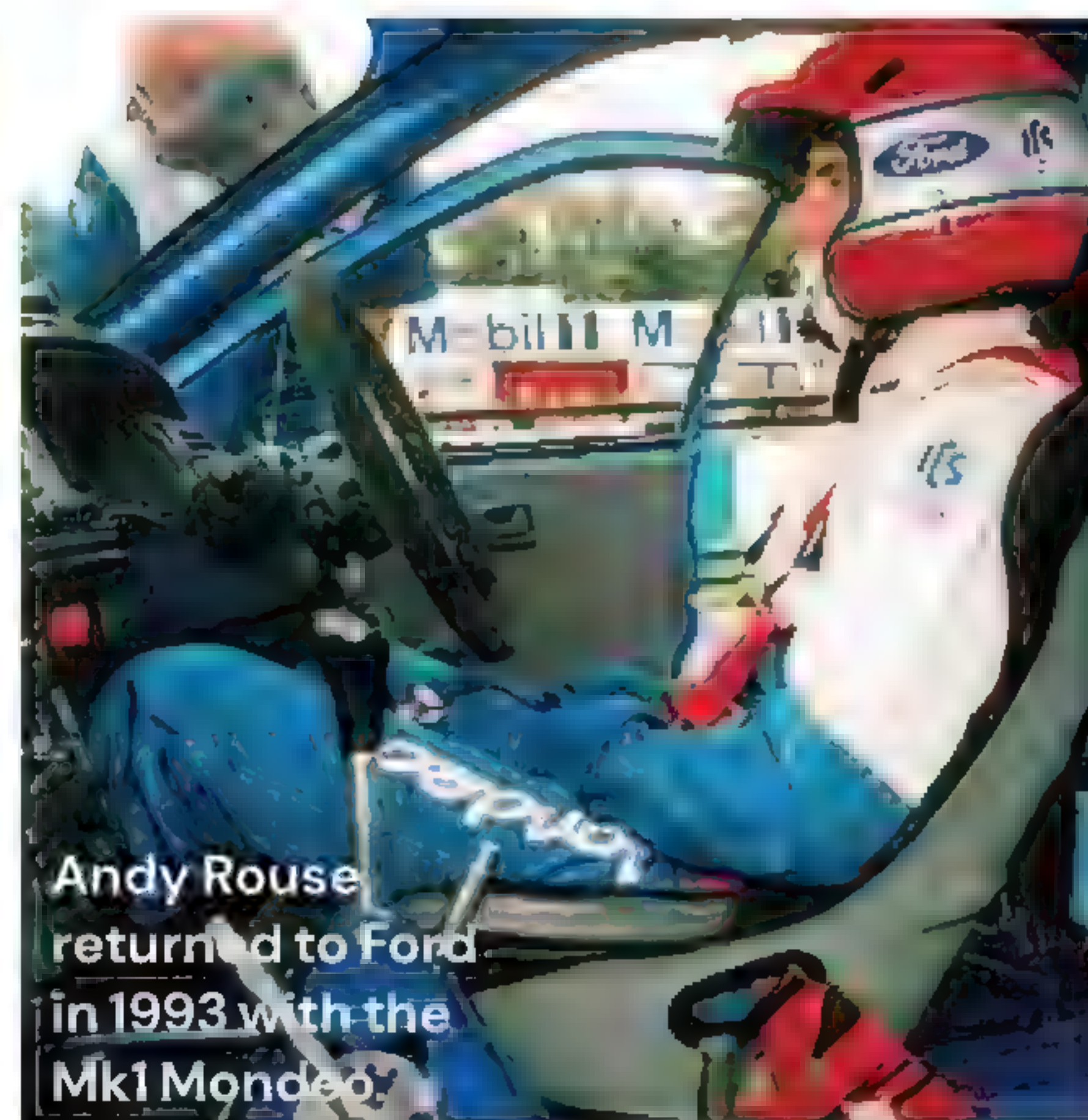
BMW and Vauxhall got their way, and Ford walked away for two years (Sierras and four-door Sapphires, stripped of turbos, did run in 1991 and 1992 with Robb Gravett and Dave Brodie, but sadly were never as competitive as the works cars from BMW and Vauxhall).

But this was just the start of the Super Touring phenomenon, which swept the world of touring car racing in the 1990s.

MONDEOS IN SUPER TOURING

Ford decided to come back in 1993 with Mondeos, and hired Andy Rouse to develop the cars, providing him with Ford-USA/Mazda V6 engines for power. Andy's first attempt was to build a rear-wheel-drive Mondeo (the regulations allowed

Paul Radisich recorded Ford's 200th BTCC victory in the Mondeo.



Andy Rouse returned to Ford in 1993 with the Mk1 Mondeo.



Prodrive-prepared Mondeos were totally dominant in the BTCC in 2000 – Anthony Reid ahead on this occasion.



Paul Radisich took on the world, in his BTCC Mondeo, at Monza in 1993 and 1994, winning on both occasions.

such a change) but it proved to be too heavy, and uncompetitive. Early in the year, therefore, he scrapped the idea and turned the Mazda-engined Mondeo into a front-wheel-drive car, at the same time hiring New Zealander Paul Radisich as his

second driver.

In its third race (Brands Hatch in August 1993), the Mondeo not only won with Radisich at the wheel, but also recorded Ford's 200th BTCC win.

Ford's decision to hire Nigel Mansell to race the Mondeo at

Donington Park was a ghastly mistake, for he crashed the car (and critics might say 'typical Mansell'), then blamed someone else for causing the accident, which was already happening when further contact took place.

Once again, in 1994 the Mondeo was a race-winning car, but for the next three years there was a steep decline, due in part to Ford's decision to fire Andy Rouse's organisation and hire West Surrey Racing to take over in his place.

Yet again, Nigel Mansell was hired (at huge expense) to race the Mondeos on three occasions: in 1998 he didn't win a race, but there was always a great deal of drama surrounding his adventures.

Finally, for 1999, Ford bit the bullet, approached Prodrive, and gave the firm free rein (and a blank cheque) to get the Mondeo back on track.

Prodrive succeeded, almost beyond measure, for in the first

MONDEOS WITH MAZDA ENGINES?

Super Touring rules allowed teams to use any existing corporate engine to power its chosen car. With the Mondeo, in 1992 the search for the best 2.0-litre engine eventually settled on the light, alloy 2.0-litre V6 being used by Ford-USA. Not that it really was a dedicated Ford unit, but a Mazda engine (Ford had co-operative programmes with the company), which was used in several Mazdas too. Cosworth did the race tuning job and produced 300bhp at a regulation-limited 8500rpm, at first, with Prodrive taking over in 1999 and 2000. Cosworth once admitted that it would have

preferred no rev-limit rules, as the V6 would probably have worked well even at 12,000rpm.



60 YEARS OF BTCC



RS RETURNS

After a lengthy time away from the BTCC, a fast Ford wearing the iconic Rallye Sport tag returned for the 2018 Championship. The Motorbase Performance-built cars were driven by Tom Chilton and James Cole (Team Shredded Wheat Racing with Gallagher) and Sam Tordoff (Team GardX Racing).

season (which was a transition and recovery year) there was one victory, and a handful of podium finishes. For 2000, three cars (driven by Alain Menu, Anthony Reid and Rickard Rydell) recorded 11 victories between them. Prodrive had worked wonders on the V6; we were never told how, but the Mondeo's and the team were demonstrably better than any of their rivals.

This perfect performance merely hastened yet another abrupt change of BTCC regulations, which went to a more restricted set of rules starting in 2001. Ford took one look at them, decided that its money would be

better spent at on Martini-livered Focus WRC rally cars, and withdrew once again.

A brief spell followed without a Blue Oval competing in the BTCC at all, until the Mountune-powered Team AON Focus Mk2 made an appearance in 2009. The following year saw the Team AON cars experiment with LPG fuel systems, while with no formal works return or official funding from Ford, it fell to independents like Motorbase Performance (who switched from BMWs to the ex-2009 Team AON cars) to keep the Blue Oval on the BTCC grid.

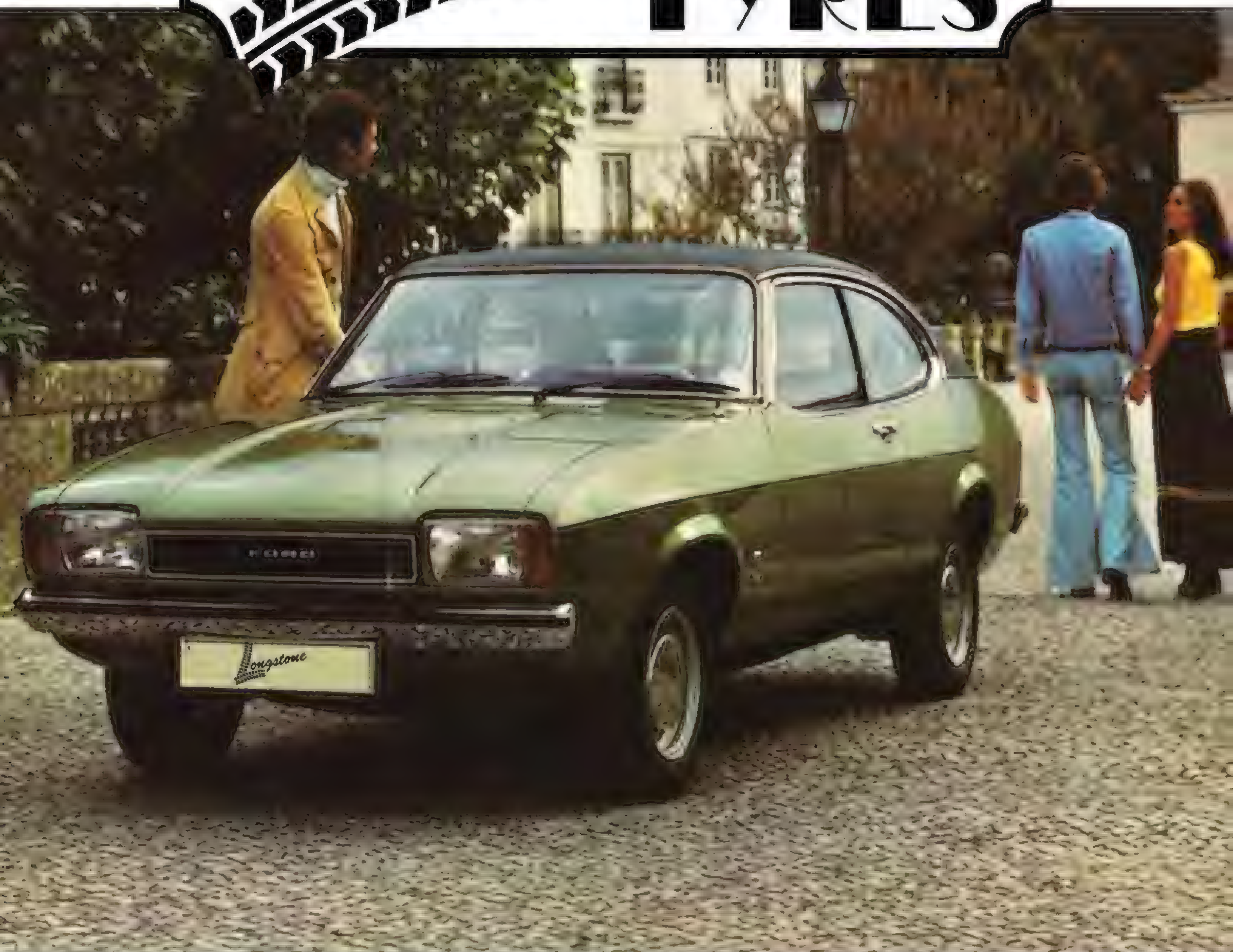
The Focus has been a contender in the championship ever since, weathering a switch to yet another set of regulations (this time turbocharged NGTC rules) and from Mk2 to Mk3 guise, and more recently to the current Mk4 ST.

Will the new Focus live up to the hype and replicate the successes of some of great BTCC Fords from the last 60-odd years? We certainly hope so.

One thing's for sure, though, with such an extensive and distinguished history of racing in the British Touring Car Championship, you wouldn't want to bet against the mighty Blue Oval...



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Track attackers

Trakstar Sierra RS500s were a key fixture of the hard-fought BTCC. Here's their story...

When the new range of Sierras was introduced in 1982, no one gave much thought to their use in touring car racing. Until, that is, Stuart Turner returned as Ford-of-Europe's director of motorsport.

What happened then is well-known, first because of the new models that appeared in such a short time – Escort RS Turbo, Merkur XR4Ti, Sierra RS Cosworth and RS500 Cosworth – and also because of the hugely controversial World Touring Car Championship, which was dominated by Eggenberger RS500s – but which lasted only for one season.

From 1987 to 1990, the Sierra obliterated all competition in the various British championships, and before long it was clear that there were only going to be two ways for the opposition to beat the Sierras – either by developing a similar model, or by persistently lobbying the authorities to get the 500bhp-plus Sierras outlawed.

In 1987, when Andy Rouse was crucially diverted into the World Touring Car series, the new Cosworth-engined Sierras won only six of the 12 qualifying races.

But in 1988, the BTCC had effectively become Formula Sierra, where RS500s won 12 races outright, of which Andy Rouse took nine victories. Even so, Eggenberger provided a car for the season (in which Steve Soper and Gianfranco Brancatelli both figured).

Neither of the pilots was willing to let Rouse have an easy run. In terms of championship points, the difference between Rouse and the rest was colossal, for Rouse scored 95 points, while his nearest rival (Jerry Mahoney) scored just 33, with Mike Newman on 28 points.

Yes, it was that much of a walkover, and the fact that the Eggenberger cars scored in only four events (two wins and two second places) disguises just how fast the Swiss cars actually were.



The engine bay and preparation of the Trakstar RS500s was always immaculate, and with 550bhp of Mountune power to accommodate, they needed to be.





Trakstar RS500 always handled well — for which Yokohama tyres took much of the credit. This was Thruxton circuit.

TRAKSTAR SIERRA RS500S



There's more to this than meets the eye. That's an Eggenberger car leading Dick Johnson's Australian RS500 at Silverstone in 1988 — but that was one of the cars that would be bought by Trakstar to start racing in 1989.

TRAKSTAR SUPERSTARS

Then, in 1989 — now more than three decades ago, since when touring car motorsport descended into a glamorous-looking class of banger racing — the establishment was well-and-truly upset.

Previously, Andy Rouse's Sierras had set all the standards in British saloon car racing, with his company (Andy Rouse Engineering) preparing several other cars and supplying pieces to all and sundry, but now there was to be a brand-new team, who would not only appear with some extremely smart machinery, but began winning races, too.

That was Trakstar. With only a hurried winter's preparation behind them, and with premises not truly completed until after the first races, they started from nowhere, early in the year. Trakstar, their leading driver being Robb Gravett, suddenly appeared with a pair of Shell-backed RS500 Cosworths (whose headline sponsors were NEC and Cartel, computer specialists), which were soon seen to be equally as fast, and capable, as anything Andy Rouse had to offer. The spark for this, no question, came from BMW — difficult as that is to believe.

TV personality Mike Smith had raced heavily against Robb Gravett

in the 1987 production saloon series, and they thought they should get together to compete in the British Touring Car Championship.

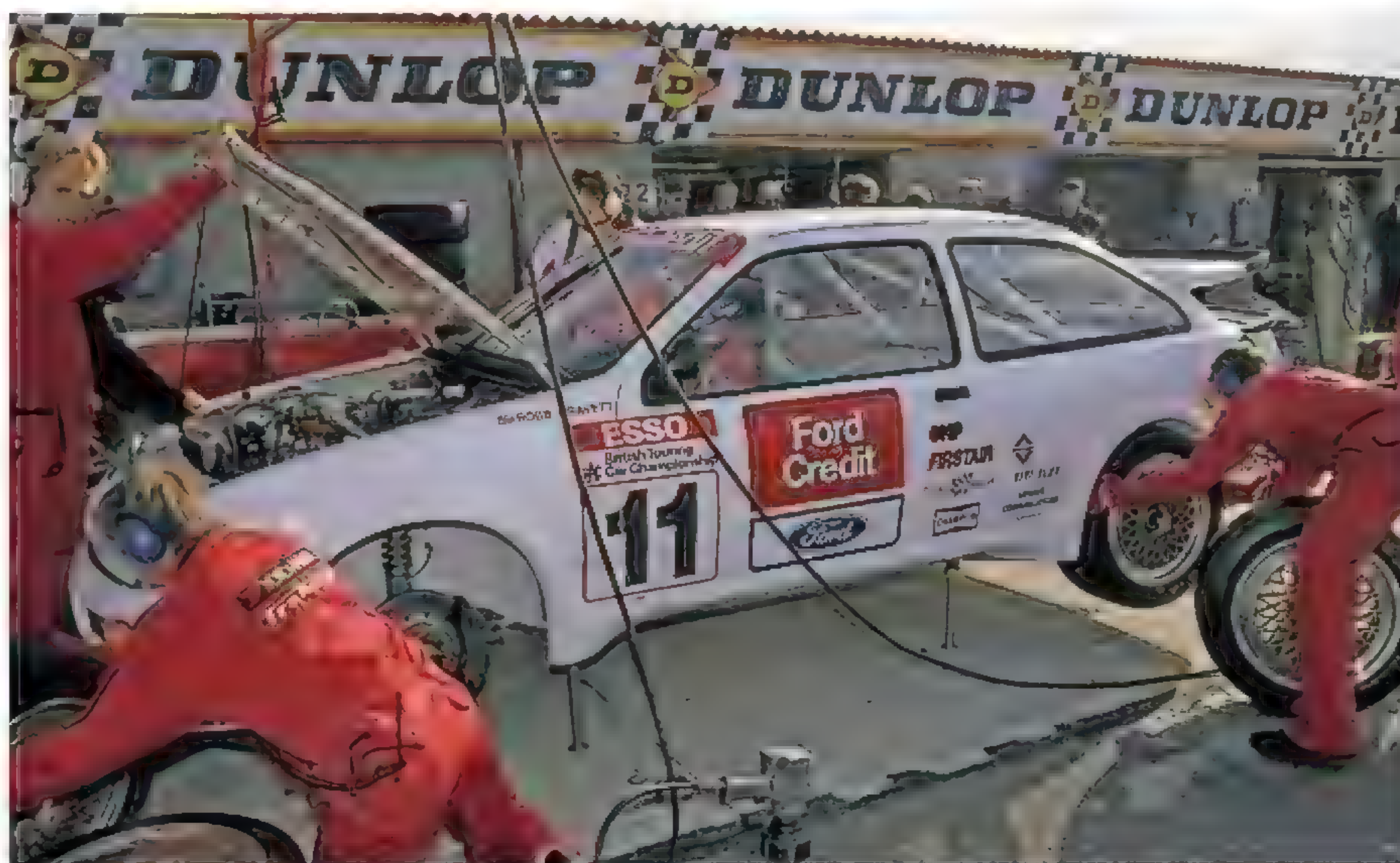
Pleas for support from Ford were unanswered (the firm's touring car budget was committed to Andy Rouse), so in 1988 Mike went off in a huff and raced with BMW in an M3, while Gravett found some races in ICS Rouse Sierras.

Smith then thought he was getting a raw deal from BMW (who stage-managed Frank Sytner, one of its dealers, to the 1988 series), so he

decided the best way to retaliate was to beat everyone in 1989, and got together again with Gravett.

Forming Trakstar with little more than their joint reputations and not much money, Smith and Gravett then had to find two RS500 Cosworths. Andy Rouse, naturally, was not about to build cars for them — in case they beat his own — so Mike Smith had a smart idea.

He said: "Robb and I heard that Dick Johnson [of Australia] was coming over for the TT in 1988. He immediately went round Silverstone



A hurried stop in the pits for wheel changes and adjustments in practice for the Trakstar car. Trakstar and Rouse Engineering machines were all beautifully turned out throughout the season.



Andy Rouse's cars were always immaculate — this being the Kaliber (alcohol-free lager) colour scheme of 1989.

faster than any Sierra had ever gone before. Then, in qualifying, he just blitzed everybody."

AUSSIE RULES

Smith immediately tried to buy two of Johnson's cars, but the canny Australian did not think this was a serious approach, and it was months before the Queenslander built new examples and agreed to sell his old stock — the clinching argument apparently being that it might be a good way for him to get back at Andy Rouse, where there was an on-

going business quarrel.

"Robb went and worked with them at Bathurst," Mike recalled, "when they agreed to supply us with two rebuilt cars. They were not new cars."

Trakstar then set themselves a £500,000 budget for the season (and lived within it — just), eventually raked in sponsorship from NEC-Cartel (a British telecommunications company), Shell, and Yokohama tyres, the rubber deal being theirs and theirs alone for 1989.

Engines, originally supplied by Dick Johnson, were eventually developed

and rebuilt by David Mountain's company in Maldon (Mountune), with this enterprising concern eventually going through at least ten different specifications during the year, the last of all delivering more than 550bhp fully-reliable horsepower. At this stage the race fuel consumption was around 4-to-5mpg — no wonder the cars used a 26-gallon fuel tank for longer races.

You want a few more statistics? By this time, a ready-to-race RS500 weight was down to the category limit of 1100kg. With suitable gearing



Robb Gravett's car has just passed the camera, Andy Rouse's car is in hot pursuit, and a stream of other RS500s try to keep up.



1988 British Touring Car Championship, Brands Hatch.

TRAKSTAR SIERRA RS500S



At the start of the season, Andy Rouse and team-mate Guy Edwards were the best of friends. That didn't last...

the RS500 could certainly top 180mph (downhill at Spa, or on the long straight at the French Paul Ricard circuit were cases in point), and could sprint from 0-to-60mph in no more than 3.5 seconds.

Several people recall seeing an RS500 passing F3000 single-seaters along Silverstone's Hangar Straight during testing sessions.

DOMINANT DUO

Even though they had to operate from new, bare, functionally incomplete workshops until April of the 1989 season, the Trakstar team produced handsome red-and-white cars, which were always on the pace. Like all other Sierra users at this time, Trakstar had to face up to rebuilding gearboxes every 600 race miles, changing the massive 9in differentials after every race, and being prepared to freshen up the engines after a couple of races.

It was no wonder, therefore, that BTCC racing in 1989 was even more spectacular, even faster, and even more Formula Sierra than ever before. Early-race pictures always showed a phalanx of Sierras in the lead (invariably with the blue-

and-white Kaliber-sponsored car of Andy Rouse battling with the red-and-white NEC-Cartel Trakstar car of Robb Gravett up front, though with one or other of the ARE-built Labatt's cars not far behind), and as far as outright results were concerned, no other make of car ever got a look-in.

It was certainly no coincidence that Rouse ran on Pirelli tyres and Gravett on Yokohamas, with the Japanese putting more effort into ongoing development.

Because of the class-biased points scoring structure that was used in the BTCC, at the end of the season the fact that John Cleland dominated his class in a 2.0-litre Vauxhall Astra automatically handed the championship trophy to him — and because there was no single dominant Sierra in the lists, there was no single Ford driver who could score so highly.

CROWD PLEASERS

Andy Rouse, so used to being unchallenged in previous years — whether in Fords, or (earlier) in Rover 3500s — had a rude shock in this particular season, for although he won six races, he found he had to



fight even harder with Gravett than he had with the Eggenberger cars in 1988. Robb Gravett won four races, and was always likely to beat him if he faltered, while the team of Tim Harvey and Laurence Bristow won twice in the Labatt's-sponsored RS500s that Rouse had originally built. To emphasise that Gravett was always to be a threat, Robb also took pole position five times and set fastest lap eight times.



Andy Rouse (left) side-by-side with Robb Gravett (right) heading into Druids Hairpin, Brands Hatch, during the 1990 British Touring Car Championship.

The spectators, if not the RAC and the less-favoured and disgruntled competitors, loved every minute of this. As *Autosport* pointed out in its end-of-season review: "The RS500s are very spectacular and very fast. Watching the drivers at work you are left in no doubt that they need bounteous skill and stamina. Several times we were treated to tremendous lead battles."

For 1990, Ford's problem was that

the Sierra was now so dominant wherever it raced — whether at the top level, in 550bhp Group A form, or at the next production level where RS Cosworths produced at least 300bhp — that it was beginning to discourage other teams, and drivers, from even taking part.

The governing body, the RAC MSA, investigated every alternative, listened to a lot of whinging, even more lobbying, and elected to run a

parallel class in 1990 — for 2.0-litre normally-aspirated cars.

The result was one last, glorious touring car finale for RS500s, which won another 13 races, but with Robb Gravett's car finally out-pacing Andy Rouse to claim nine outright victories, and the drivers' championship.

At which point, Ford Motorsport took a step back and did not return until 1993, with the all-new, front-wheel-drive Ford Mondeo.

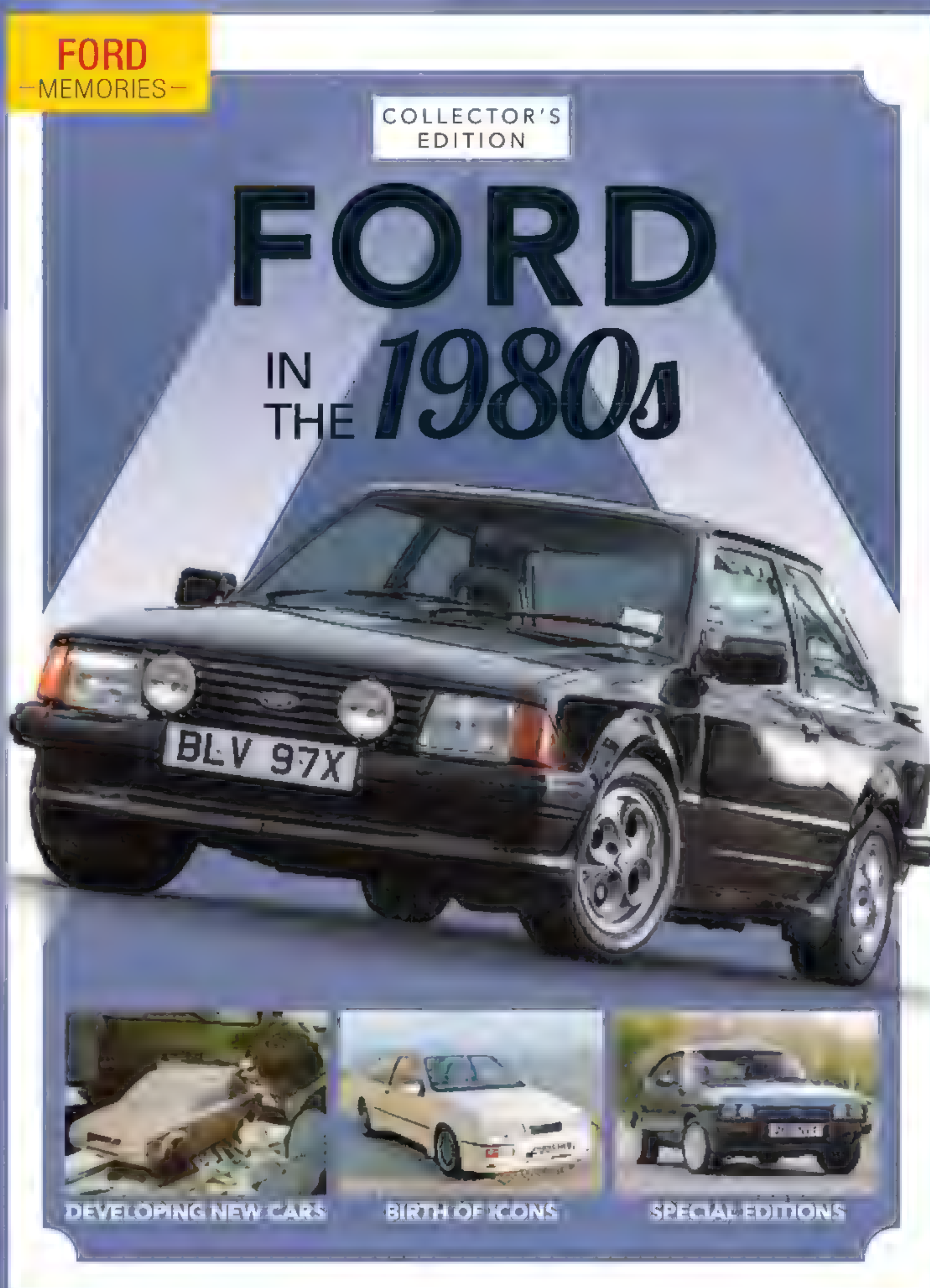
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Last chance saloon

Taken together, the Mk1 and Mk2 Ford Mondeo represent the longest lived of all the Super Tourers, making the Mondeo's eventual triumph in the final years of the Super Touring era all the more remarkable...

Really, the Ford Mondeo British Touring Car Championship programme deserves to be better remembered than it is. If nothing else, because it neatly encapsulates how high-profile the series was throughout the 1990s, how committed Ford was to winning, and how much money it was willing to invest to do so.

The idea of a car maker, any car maker, sinking millions upon millions into a domestic touring car championship in 2019 is laughable, but that's precisely what Ford did with its Mondeo programme.

The adoption of Super Touring regulations as Europe's premier tin-top championship regulation (DTM aside) was, at least in part, a response to Ford's wholesale, Sierra-shaped domination of Group A racing a few years previously.

Yet the idea of being able to campaign front-wheel-drive machines with a clear, visual link to the road-car range appealed to the Blue Oval as much as its rivals, and as such it wasn't much of a surprise when Ford announced it would be campaigning its then-new Mondeo for the 1993 season.

The task of preparing the new car for a life spent trading paint with its supermarket car park rivals fell to another name writ large in Ford folklore, Andy Rouse Engineering. Fresh from recent success with Toyota, Rouse set about transforming the Mondeo Si into a Super Tourer, soon settling upon the front-wheel-drive Xtrac-shod setup as favoured by the majority of the grid (despite a brief dalliance with rear-wheel drive, in common with Vauxhall).

Where Ford's challenger differed from the majority of its rivals was in engine configuration, the Mondeo



sporting a tiny, sub-2.0-litre V6. The all-alloy motor was mounted incredibly low within the chassis of the car itself, to aid its centre of gravity and, uniquely, so that the front driveshafts could run between the cylinder banks.

Power was a whisker over 300bhp, doled to the front wheels via six-

speed sequential and through the previously-mentioned Xtrac diff.

Development of the new car was protracted, and the new machines debuted midway through the 1993 season at Pembrey. The Mondeos of Rouse and Paul Radisich were on the pace from the get-go and the latter would finish the season in

third overall, collecting a trio of race wins on the way. It was a remarkable performance and underscored the Mondeo's innate pace.

Sadly, for those of us of a Blue Oval persuasion, the following season would prove to be barren – for any team not running the Alfa Romeo 155, the aero advantage of the Italian cars was all but insurmountable. Radisich won twice and again led the Mondeo charge, ending the season in third once more. Ford matched this in the manufacturers' standings.

If anything, 1995 was even more disappointing. The now-fully-developed Mk1 Mondeo was comprehensively beaten by the equally mature Vauxhall Cavalier, with Ford's cause not helped by the Mondeo's propensity to consume tyres as the laps ticked by.

This was blamed on the weight of the V6 and, in part, because of the increased aero demands placed upon the car by the newly sprouted wings and splitters. Ford's Kiwi won just twice all year, and at the end



MONDEOS IN BTCC

of the season Ford awarded the Mondeo contract to West Surrey Racing (WSR) instead.

WSR's tenure marked the Mondeo's nadir in terms of its BTCC competitiveness. By 1996, the Mk1 Mondeo was decidedly old hat and failed to trouble the top step of the podium all year, while 1997 and 1998 were marked by maddeningly poor reliability for the new Mk2-shape car. The team's cause wasn't helped by the loss of Radisich to Peugeot at the end of 1997, nor its inability to find a suitable long-term replacement lead driver.

All of this meant that Ford again opted to reassign responsibility for the Mondeo programme at the end of 1999, settling upon WRC and Subaru stalwarts, Prodrive. The move was matched by an increased financial commitment from Ford, in line with the ever-increasing cost of the Super Touring formula as a whole. The sheer amount of money required to partake would eventually see the series move to a more modest production-based formula from 2001, giving Ford and Prodrive

just two years to save the Mondeo from being a (relative) failure.

It wasn't hard to see where the increased FoMoCo millions had been invested: the new Mondeo was by some margin the most advanced Super Tourer of them all, and by extension the most advanced BTCC car to ever grace a grid.

New aero was only part of the package; one of the most effective alterations was the remounted 24v V6, canted forward at a near-incomprehensible angle to aid

induction and weight distribution, so much that the lower block of cylinders was almost horizontal – an angle that also placed the crank in line with the bottom of the bulkhead.

Prodrive's efforts were marshalled by David Lapworth (of Impreza WRC fame) and George-Howard Chappell, and the pair were effectively given free rein to do whatever was needed to bring the Mondeo to the fore of the grid. Ignition and exhaust tweaks were both found to be effective (not least as the pair focussed on





packaging as much as performance), as was a revised approach to suspension geometry.

Now, Ford was in a position to win. Or at least it was come 2000, because the preceding season proved to be something of a disappointment. The combined efforts of Alain Menu and Anthony Reid weren't enough to overcome the might of Nissan and its Primera, and in any case, the new Mondeo was beset by teething troubles.

By 2000, with the end of Super Touring very much in sight, Ford doubled down on its investment

yet again by expanding to a three-car team, at a rumoured cost of £12 million for the season alone. Menu and Reid were joined by Rickard Rydell, and the Mondeos would face Vauxhall and Honda for overall supremacy, marking the final opportunity for Ford to recoup its significant investment in the series.

In truth, there was never any doubt as to which car maker's trophy cabinet the 2000 BTCC trophy was going to wind up in, as the Mondeos proved to be the class of the field from the off. The only area of uncertainty concerned

which driver would have the honour of rounding out the championship's most competitive era, and it wasn't long before Menu, Reid and Rydell were fighting it out, tooth and nail, in three of the most visually impressive Ford race cars of the era.

In the end, it was Menu who came out on top to secure his second BTCC title, and confirming his status as the most successful driver of the Super Touring era. Ford, its work done, pulled out of the championship and the curtain was brought down on the Mondeo's competition career.

Ford's desire to turn the Mondeo into a championship-winning proposition took the best part of a decade, involved three different race teams and cost untold millions. It saw the company locked in combat with some of its biggest rivals on the forecourt, and it only finally came good in the dying moments of the Super Touring era.

But that doesn't matter; not really. Not when you consider the noise, pace and visual spectacle offered by the Prodrive built, Rapid Fit-livery cars. The multi-million pound Mondeo – we love it!





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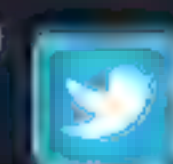
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Three's company

Boreham and David Sutton campaigned the same Mk2 Escort – STW 201R – for five years, during which time it had at least three different lives. Here's its remarkable story...



Before the start of the 1977 Safari: four brand-new Escorts pose for the cameras. STW 201R would win the event outright.



Top right: Looking a little bit less immaculate than it had a week earlier, STW 201R was still proud enough to display its success in the 1977 Safari. Bjorn Waldegard (right) and co-driver Hans Thorszelius post happily with their trophies.



The original Safari car: 1977

Success meant number one became a show car

The original STW 201R, with left-hand-drive and the same technical specification as STW 200R, STW 202R and STW 203R, was one of four new RS1800s built for the 1977 East African Safari, and was allocated to Bjorn Waldegard.

By virtue of a huge amount of patience, the use of much Safari bush-craft and a lot of previous Safari experience, this left-hand-drive machine was the only one of the four Escorts to make it to the finish – but it won, outright, by 35 minutes from Rauno Aaltonen's Datsun Violet.

There were times on this event when Bjorn was driving so fast that he easily outpaced the various Ford spotter planes that were flying above him, but there were also times when he was stuck for many minutes in the face of impassable floods or deep mud-holes.

In the film Ford made about the event, one sequence showed this Escort crossing a wide and raging torrent with the water swirling around above bonnet level, but somehow he kept it all together and made it back to the finish in Nairobi.

Not that the Escort was trouble-free, for at one stage it suffered a complete front suspension strut change, and there was a potentially serious

electrical fire at a refuelling halt, while towards the end the rear axle gave trouble when five bolts sheared off.

Immediately after it had won the 1977 Safari, Ford brought it back to the UK and turned it into a show car in the Heritage Collection. There the matter would have rested, if someone in the company had not decided to give this precious artefact a completely new paint job, to make it look like the more modern Escort (WTW 567S), which Bjorn Waldegard used to win the 1977 RAC Rally. Because of the extensive sponsorship decals carried by that car, the original (and now this mock-up) became known as the British Airways colour scheme.

At a stroke, therefore, the heritage of the original STW 201R had been destroyed, though the so-called British Airways car would be retained in the Heritage Collection for the next 30 years and more.

But the story is not complete, for in the mid-2000s Ford loaned it out to an over-confident TV journalist, who promptly rolled it in front of the cameras. The damage was repaired by gifting the car a new bodyshell, so all the old heritage was effectively destroyed.

WORKS Mk2 ESCORT



The second-generation STW 201R, a brand-new car, first appeared in 1978, and was also used in 1979. This was Hannu Mikkola, on his way to finishing fifth in the 1979 Swedish.

The second car: 1978–1979

Version two was state-of-the-art for its time

Quite unexpectedly, a second car to carry the STW 201R plate came along. For the same basic reason as for the sudden appearance of a second cloned STW 200R, Boreham found itself short of cars for its active fleet for an intense World Championship programme, and decided to resurrect the STW 201R number plate by removing the VIN plate from the Heritage machine.

Built during the summer of 1978, the new STW 201R was a typically state-of-the-art works Escort, which started its career in August 1978, in the 1000 Lakes, in the hands of Hannu Mikkola.

Everything started well in Finland, with Mikkola setting fastest times on the first three stages. By SS11 he had been fastest, or second and third fastest, on all but one stage, yet suddenly the engine stopped in mid-stage with an obscure distributor/electrical failure, and Hannu was obliged to retire.

Months later, in February 1979, STW 201R and Hannu Mikkola were reunited, this time with sponsorship by Vaudhin Maailma (a Finnish motorsport publication) to compete in the snow-covered Swedish rally. In conditions that were not ideal for a powerful rear-wheel-drive car,

Hannu spun out twice, losing a total of ten minutes, and was eventually relegated to fifth place.

Later, after the car had been used for more mundane practice duties, in September 1979, STW 201R was sent out to contest the Cyprus rally. As this event was sponsored by Rothmans, it made sense to have the car liveried by Rothmans, and to have the star driver Ari Vatanen behind the wheel. The car was in typical Boreham rough-road condition, with Weber carburettors.

It was a triumph, for after a long, hard, hot and dusty weekend, Ari recorded his first works victory of the year. STW 201R might have been getting old by then, but it won the event by a rousing 40 minutes.

But as far as Ford, Rothmans and every enthusiast who followed the fortunes of these cars were concerned, the story was still not over, not by any means. Immediately after the closure of Boreham's doors at the end of 1979, STW 201R was sold to David Sutton (Cars), and began a new career as a fully-fledged, new-livery, Rothmans Escort.



Ari Vatanen on his way to winning the 1979 Cyprus event in STW.



David Sutton had bought STW 201R – the second-generation car, that is – from Boreham in 1980, and for 1981 rejuvenated it once again, as a newly-shelled car for Malcolm Wilson to drive. This was Malcolm on the Welsh rally, where he finished fifth.

The third car: 1980–1981

Now in Sutton's ownership, STW got a fresh start

Although the registration number was already famous among Ford rally enthusiasts – it had, after all, figured on Bjorn Waldegard's 1977 Safari-winning machine, and had been reincarnated by Boreham in 1978 on another car – there was much more to come. After it had won the Cyprus rally in 1979, it was one of the fleet of Escorts that were sold off from Boreham during the winter of 1979/1980, where it ended up in the safe hands of David Sutton (Cars), for use in the Rothmans-Ford team of 1980 and 1981.

Not seen in public for some months after its purchase, STW 201R reappeared in September 1980, for the first time in modern Rothmans colours. Sent out to Cyprus to contest the rough and tough Rothmans-sponsored Cyprus rally, it was entrusted to Roger Clark to drive, and to everyone's joy, Roger brought it home the outright winner, a long way ahead of any of

his competition. Much was made of the fact that this was the self-same car that Ari Vatanen had driven to victory in Cyprus in 1979, which indeed it was, but after Roger had finished with it on the rough stages of the island, it was overdue for a new bodyshell to be fitted.

For 1981, the entire car was rebuilt around a brand-new right-hand-drive bodyshell. Malcolm Wilson then drove it throughout the year, starting an intensive British campaign by taking sixth place on the Mintex.

Two months later, Malcolm drove it on the Circuit of Ireland, still with a Weber-carburetted engine, and still with leaf-spring rear suspension. Two accidents in the early stages, both at high speed on tarmac, did nothing for his confidence, an enforced gearbox change depressed it further, and a broken propshaft on SS41 put a final end to his misery.

Malcolm, though, was in better spirits three weeks later, when his

repaired car started the Welsh rally, which had wall-to-wall forestry special stages. After a steady run, in what was a star-studded entry list (with three Rothmans cars taking part), he took fifth place.

Once again, and only three more weeks later, the same driver/crew combination tackled the Scottish rally, which had 39 stages.

This time, the car not only needed a ZF gearbox change at one point, but it went off the road briefly, and lost a little time. Even so, third place behind works Vauxhalls and Opels was another good performance.

The same hard-working car then turned up for the all-tarmac Manx rally in September, where Malcolm Wilson had requested Sutton-tarmac suspension, which featured rear helper coil springs while retaining the leaf springs as usual, and ultra-wide rear wheelarch extensions were in evidence. Offered a fuel-injected engine, he turned it down in favour of the usual type of Weber-carburetted alternative.

In an event that developed into a four-way battle with works Opel Ascona and Vauxhall Chevette HSR, and Walter Rohrl's Porsche 911SC, Wilson performed magnificently and took another third place.

This car's final event in Sutton-Rothmans guise came in November, on the RAC Rally, where Malcolm Wilson drove it in absolutely standard British forestry specification.

After starting steadily, he got the Escort deep into Kielder forest on the 18th stage, went off the track, and could not retrieve it. This car's Sutton-Rothmans career ended at that point.

Although this particular car was then sold off at the end of the 1981 season, its history in later years became progressively more cloudy, especially as the surviving Rothmans car had been recreated from the original in 1978, the original had a big accident many years later, the damaged bodyshell was sold off and... Need one say more?

ESCORT RS1700T



One of the most interesting aspects of the internet-based car world is its ability to make household names of even the most overlooked of race and rally cars.

Case in point is the RS1700T. Built as the ultimate rear-wheel-drive Escort rally car and the result of Ford of Europe's steadily expanding understanding of forced induction, the RS1700T was intended to be the Blue Oval's means of anchoring itself at the top of the World Rally Championship as the 1970s gave way to the Eighties.

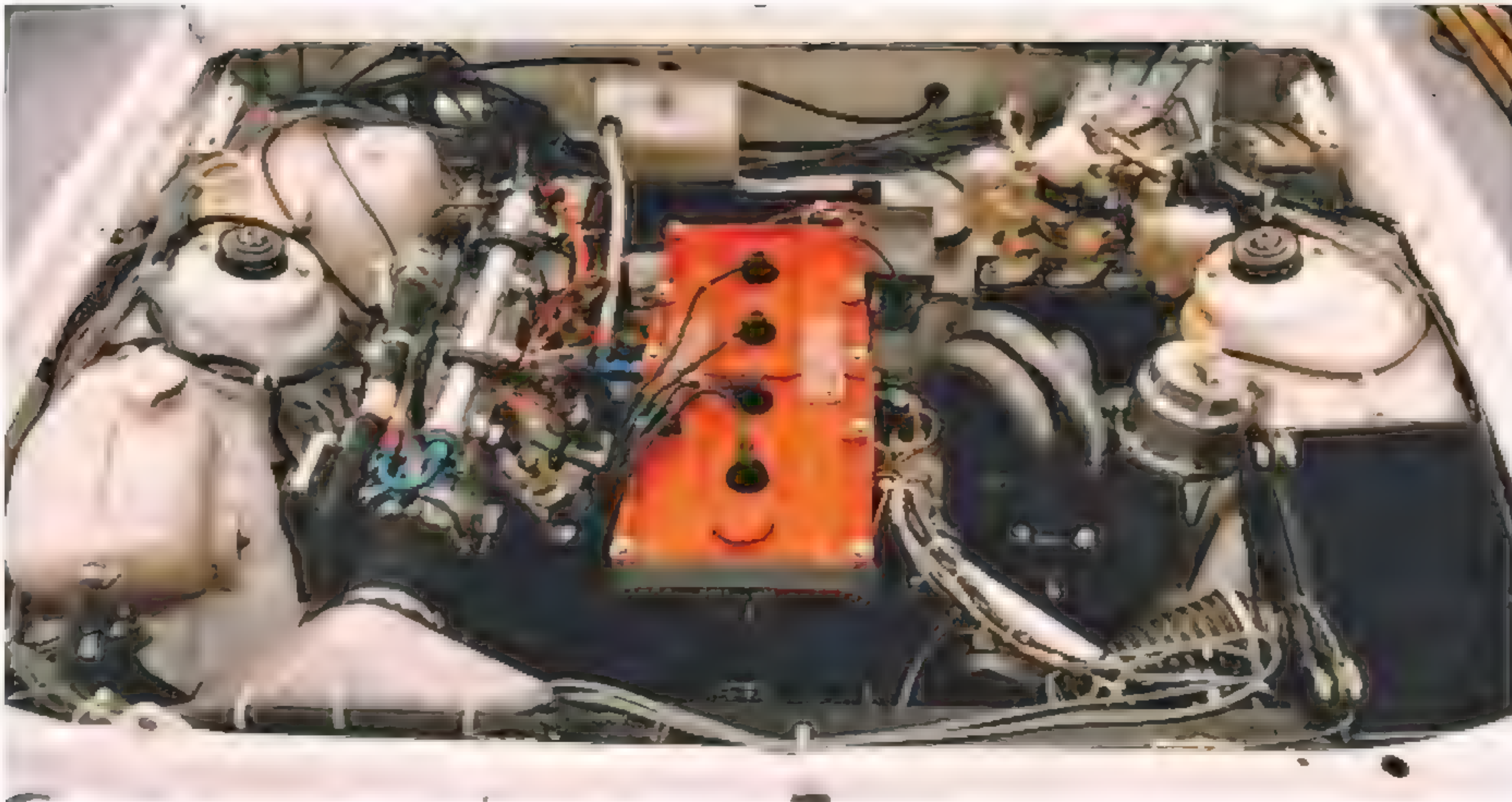
As most readers probably already know, that didn't happen. The RS1700T never got a chance to showcase its undoubted pace or potential, and it can all be summed up by one single word: Quattro.

The Audi A2 Quattro was launched upon an unsuspecting (and some might say naïve) rallying world in 1981, and within months it was abundantly clear that the game hadn't so much moved on as been changed entirely. And while those early Audis were beset with maddening reliability issues, there

What might have been – the RS1700T

Denied its moment of glory by the launch of Audi's Quattro, the RS1700T has nevertheless passed into Ford Motorsport history as a rallying what-might-have-been





Turbocharging the BD engine proved successful, and similar engines went on to power the mighty RS200s.

was no hiding the truth – the days of the rear-wheel-drive rally car were already numbered.

Yet the RS1700T had so much going for it, and there's no reason to doubt that had things panned out slightly differently then it would have been a world-beater.

First and foremost, it was a Boreham creation. Ford had shuttered its works rallying effort in 1979 and sold the whole lot to David Sutton, but the expertise remained. The men from Essex had concluded the 1970s as the masters of building cars capable of making light work of terrain as diverse as Welsh forests, Corsican asphalt or Greek bedrock.

Given Ford's recent success with

the Mk2 Escort it was perhaps unsurprising that the division should seek to make use of as much of the old car's proven hardware as possible, and something of a greatest hits of RS1800 oily bits would eventually make its way beneath the RS1700T.

That's not to say Ford had been completely oblivious to the march of technology, as evidenced by the telltale 'T' at the end of its title. Even here, Ford stuck with the BDA as its basis for the new car, albeit highly modified to take full advantage of the opportunities presented by Group B.

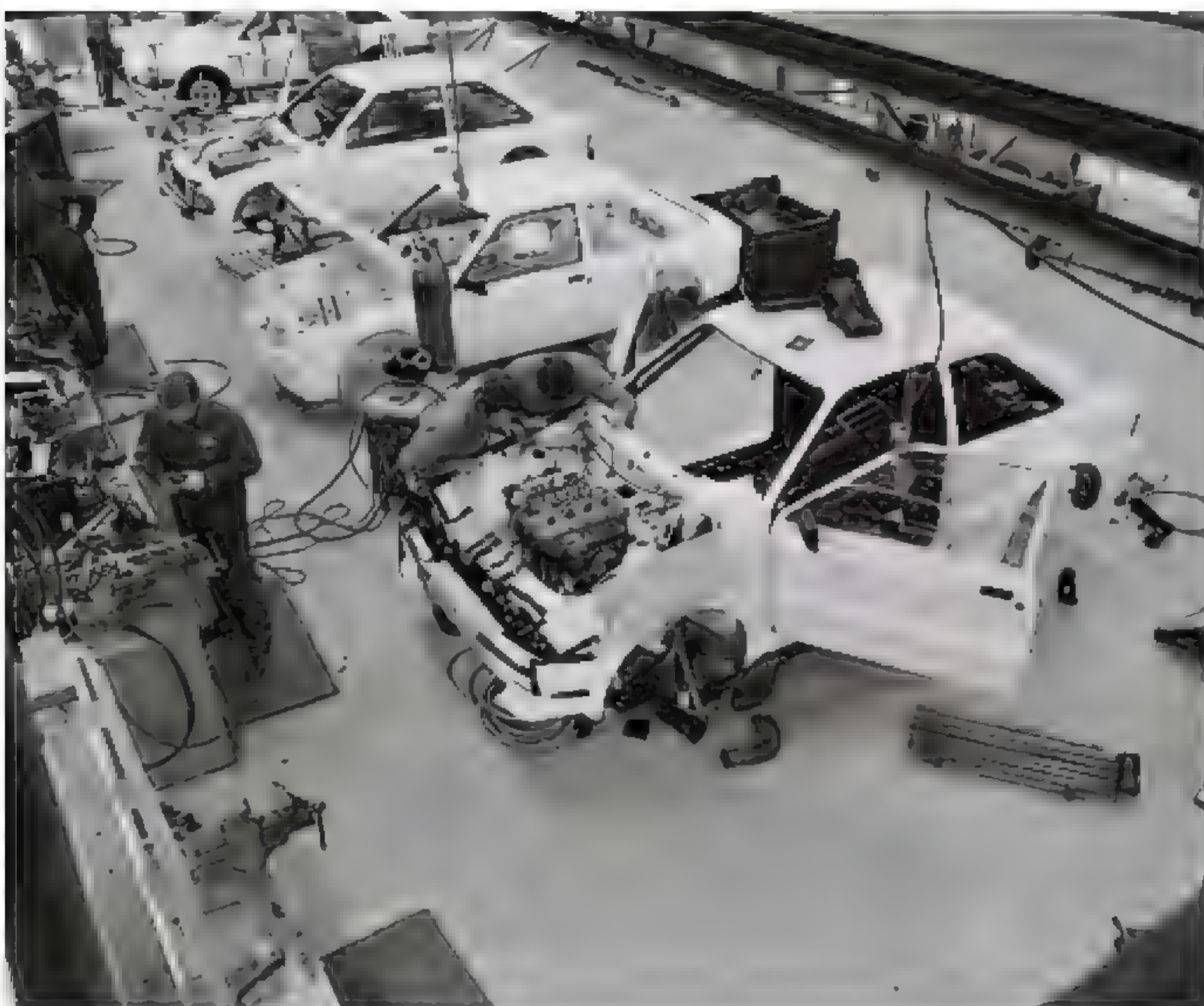
The engine's capacity was dropped from 2000cc to 1800cc in order to take advantage of the formula's

forced-induction multiplier rules, which in practice meant that when the factor 1778cc x 1.4 was applied, the new car would be deemed to have an effective capacity of 2489cc. This would in turn permit it to weigh as little as 890kg.

The setup outlined above became the beloved BDT, a firm Ford favourite and something of an icon, yet it wasn't the only engine under consideration. Only too aware of the power- (and confidence-) sapping effect of monumental early 1980s' turbo lag, the company also green lit a naturally-aspirated variant driven by a Brian Hart-penned 2290cc screamer. A prototype was built and tested against its boosted twin, but Ford ultimately decided that the sheer power potential of turbocharging outweighed any concerns over tractability.

Whatever the engine up front, it was clear that the RS1700T would need a reliable means of sending upwards of 350bhp to the rear wheels, and there was an added complication – weight distribution.

Nullifying the downsides to the car's front-engined layout fell to John Wheeler, who wholeheartedly recommended the adoption of a transaxle setup in order to better spread weight front-to-rear. His specific solution was that of an



ESCORT RS1700T



aluminium torque tube, which would feed drive from engine to transaxle and also act as a chassis strengthening device.

It was now late 1981, and while the combination of a Sutton-fettled Mk2 Escort and Ari Vatanen had been enough to give the latter his sole championship crown, it was painfully clear that this was not representative of the true run of play. Blue Oval top brass was becoming impatient at the lack of a fully formed, competitive challenger (the company had officially bowed out of the sport in a works capacity at the end 1979, remember), and there was increasing disquiet within the camp.

Come 1982, and the can could be kicked no further down the road (or more correctly, stage). Both the N/A and turbocharged versions of the new Escort were shipped to Rally Portugal for an in-depth test, with Vatanen and Pentti Airikkala roped in to drive.

Neither Finn was especially enamoured with the performance of the N/A car but both waxed lyrical about the performance of the BDT, with the incumbent drivers' champion a full second-and-a-half per km faster than the car that had won the rally 12 months previously, a Fiat 131 Abarth.

Yet to use the Abarth as a yardstick

was to miss the mark entirely. It might have been the dominant rallying force mere years previously, and also the Mk2's chief rival for much of its works career, but the Fiat was so far removed from the face of the WRC in 1982 as to be irrelevant. The Quattro was the true benchmark, and, on gravel at least, it had comfortably shaded the RS1700T's times.

Things came to a head late in 1982 when Stuart Turner was made Ford Motorsport head honcho. Unimpressed with the proposed plan to homologate first a rear-wheel-drive, then a four-wheel-drive variant of the RS1700T, Turner instructed the Mk3 programme to be killed outright and a new, clean-sheet car built along pure Group B thinking commenced instead.

So, what did Ford get from its multi-year sabbatical and untold hundreds of thousands of investment and development budget? On the face of it, not much. The Blue Oval found itself with 16 largely useless RS1700Ts (the bulk of which would see limited service in South Africa) and on the back foot in its quest to return to the top of the rallying pile. The one upside was that it now had the fully developed, impressively powerful BDT, the motor destined to power the legendary RS200...







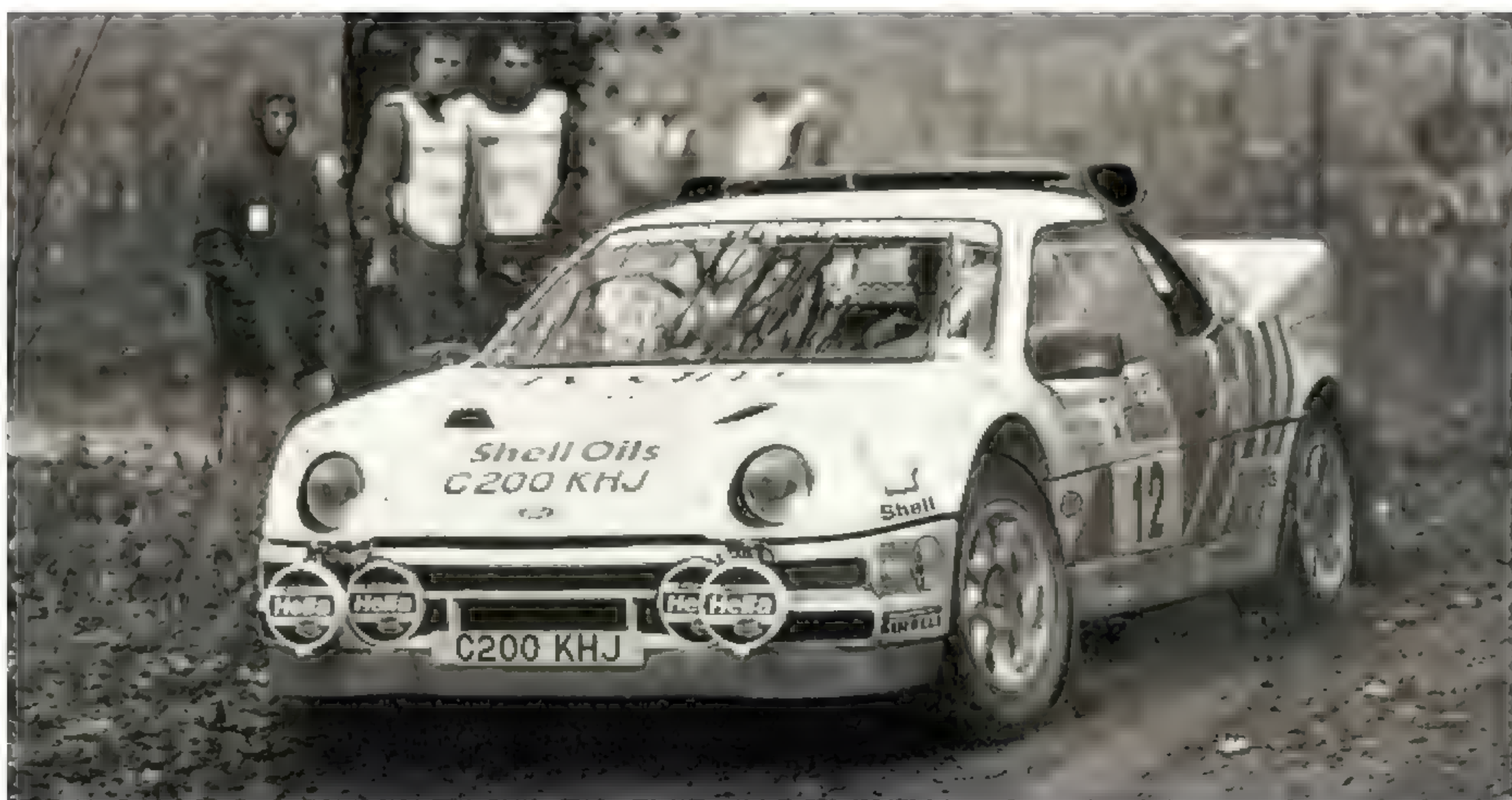
Unfulfilled potential

Ford fans worldwide regard the RS200 as a Blue Oval legend, but just how good could it have been if only fate hadn't conspired against it?

The Ford RS200 is perhaps the ultimate rallying what-might-have-been. It bristled with technology, sported dozens of forward-looking innovations, and of course came from a company with some of the deepest of coffers. Yet it didn't succeed, and, thanks to events outside its control, the RS200's best ever WRC result would be on its debut, a lowly third.

Come the early 1980s, and it was clear that Boreham would have to take drastic action if it was to recapture the position of dominance it had held for most of the previous decade. Not even Ari Vatanen's drivers' title in 1981 was enough to hide the fact that an NA engine, a live axle and a steel bodyshell were





Ford may have been late to the party, but that meant it could learn from others' mistakes when designing the RS200.

decidedly old hat in a world now dominated by forced induction and all-wheel drive.

Step forward the Mk2 Escort's ill-fated successor and previous Ford Motorsport icon, the RS1700T. There was no denying that the BDT-powered Mk3 was a far more potent proposition than its naturally-aspirated forebearer, but it also sent its power to the rear axle and the rear axle alone. It didn't take long for Ford to realise that the debut of the Audi Quattro, not to mention its ever increasing reliability, was the new benchmark. RS1700T development

was thus halted in unceremonious fashion by Stuart Turner.

Ford might've been forced back to the drawing board, having effectively wasted a good portion of the early 1980s, yet the delay did at least give Boreham the chance to take stock, to fully assess the Group B rules and make changes to the formula based on what its rivals were doing.

The most important lesson Ford learned was that the Quattro, while the yardstick until 1984, had had its moment in the sun. Peugeot's mid-engined 205 T16 was the new force to be reckoned with by dint

of its mid-engined layout. PSA had grasped the full potential of the Group B formula and had reduced the Ingolstadt-made Audis to also-ran status at a stroke.

Ford didn't waste time when it came to heeding PSA's lesson, and there was therefore no question of the RS200 being anything other than a mid-engined creation. It also had one of the finest forced-induction motors of the decade, the BDT, increased to 1803cc in readiness for RS200 duty.

Ford had also noted that this engine's basic power output of 425bhp was small beer by the beginning of the 1985 season and therefore commenced development of an Evo variant right away. While the 20 Evo cars would benefit from a 2137cc BDT-E good for 600bhp or more, they'd be denied the chance to prove their worth in the WRC.

The RS200's trio of viscous limited-slip differentials was more nuanced than anything found beneath a Quattro, with the ability to toggle the percentage of torque sent to either axle depending on the nature of the rally. Standard was 33:67 front to rear, though drivers could also specify a 50:50 split for



RS200



loose gravel or snow, or, in a nod to the fairly rudimentary nature of all-wheel-drive setups at the time, 0:100 for sealed surface work.

Ford paid attention to the new machine's weight distribution and opted to locate the Getrag gearbox at the front of the car. Doing so involved the design of a complex secondary propshaft to route power from the front of the car, back to the rear. This was twinned with equally advanced suspension, including double uprights and double wishbones to give the kind of damping flexibility Ford's rivals could only dream of. The above was hung from a tubular spaceframe, again pointing to the RS200's elongated gestation period and Ford's ability to learn from Audi's mistakes.

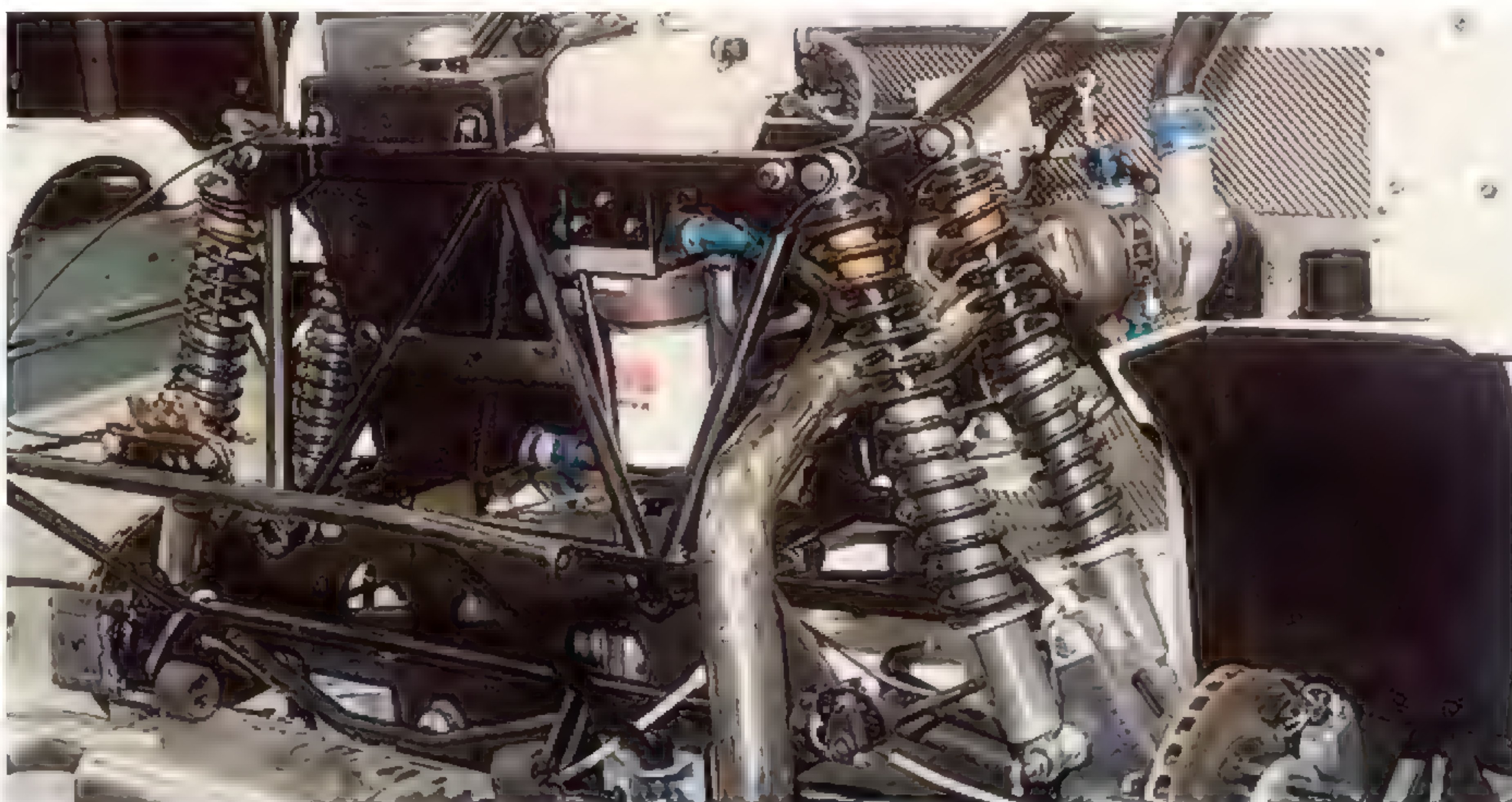
The RS200 was effectively engineered into existence by Tony Southgate and John Wheeler, both of whom had cut their teeth in F1, while the striking bodywork was penned by Ghia of Italy. The Ford parts bin was raided for more prosaic parts, including the windscreen, tail lights and various

interior fixings, all of which were liberated from the Sierra. And that really was about it; the RS200 was a rally prototype through and through, and looked quite unlike anything else in Ford's range – nor its rivals.

The new car debuted near the beginning of the 1986 season in Sweden in the hands of Stig Blomqvist and Kalle Grundel, the former having been poached from Audi specially for the task. The mix of local talent and the snowy conditions proved fruitful, the latter

allowing the RS200 to demonstrate its potential in low-grip conditions, and Grundel drove a measured event to come home in third. Little did he or Ford know that this would be the car's best WRC result.

The RS200's lowest point would come mere weeks later, on Rally Portugal. Joachim Santos, a privateer competing on his home rally, had dug deep to purchase an RS200 of his own. While there was no denying he was a talented driver, the new Group B car represented a quantum leap in



The RS200 used a clever double-wishbone suspension setup.



performance compared to the Mk2 Escort he'd hitherto been used to.

The final piece of rallying's perfect storm was put in place by it being Rally Portugal, notorious even in the WRC's Group B era as akin to the wild west. It is from Portugal that were born grim tales of mechanics digging fingers from the vents of Group B cars, a legacy of the willingness of some spectators to prove their machismo by attempting to touch the cars as they flashed by.

Thus one of the darkest days in WRC history played out among the Portuguese hills around Sintra, with Santos plunging off the road on the very first stage, right into a bank of tightly-packed spectators. Three

were killed and at least 30 more injured, a situation compounded by the reticence of the organisers to stop the stage until at least a further ten cars had completed it. Ford, along with all other works teams, pulled out of the event immediately.

The Portuguese incident was soon followed by the deaths of Henri Toivonen and Sergio Cresta on the Tour de Corse, after which FISA decreed that Group B would die at the end of the year. As such, RS200s were seen only sporadically thereafter, with decent performances in Greece and the RAC once again demonstrating the car's potential in low-grip conditions.

The death of Group B rather

pulled the rug from under Ford's feet and RS200 development naturally suffered as a result. Ford had planned a raft of revisions and the debut of the lighter, more powerful Evo variant for Rally Sweden the following year, and while there was some discussion about repurposing the RS200 for use in Group S, the plans (and the category) never materialised.

All of which left Ford in something of a quandary. In common with MG Rover and slew of former Group B teams, Boreham now had a glut (though not quite the 200 demanded by homologation rules) of largely useless rally cars to sell, some of which didn't find homes until 1990.

Still, there was some comfort in the RS200's post-WRC rallycross career, a discipline in which it proved popular (by dint of being relatively simple to keep going) and competitive. The most successful of these was campaigned by Martin Schanche, 'Mr Rallycross' himself and a stalwart Ford man. His was one of the few Evo versions built and thus benefited from the 2.1 engine, a unit able to make as much as 900bhp at full boost – though rarely for long. Schanche won the 1991 European Rallycross Championship with the car, and persisted with it until the banning of Group B machinery the following year.

Undoubtedly the oddest post-rally career for the RS200 was in the American IMSA GTO series, a championship in which it competed sporadically from 1989 to 1991; the car can occasionally be seen out and about at events like Goodwood Festival of Speed even to this day.

So, the RS200. Hardly the most successful of rally cars and one unfairly forever linked to a tragic day in the annals of motorsport history, but an immensely capable, technologically advanced bit of kit nonetheless. Few competition cars have demonstrated so much potential for so little reward.



The RS200 IMSA GTO car still makes the odd appearance at events like Goodwood FOS.



Broken wings

It was never a world beater, nor did it ever give the appearance of being so, but the Escort WRC remains one of the most iconic rally cars of the 1990s. Here's the tale of how it came to be...

The Escort WRC is a rallying oddity, make no mistake. It might be one of the most brutal looking (and sounding) cars to ever ruffle a gravel apex or bother a Welsh pine forest, but Ford's first World Rally Car was a stopgap, the result of massive regulation-based upheaval in rallying's upper echelon, and therefore something of an automotive link bridging Group A to the World Rally Championship.

Ford's relationship with top-tier rallying was one of compromise for much of the last quarter of the 20th century. Cars like the RS1700T, the RS200, and even the Sierra Sapphire, all showed pace and potential yet all three were undone, either by timing, circumstance, or in the case of the

Sapphire, size and mass.

It was into this world that the Escort Cosworth stepped in 1993, very much Ford Motorsport's shining hope for the 1990s and the car with which it hoped to restore dented pride. But while the Escort's Monte-bagging performances did enable its maker to save face and regain some rallying respect, a mix of poor luck and lack of pace (not to mention Delecour's Ferrari F40 accident) meant that the bewinged Ford wasn't really a regular Impreza- or Celica-beater.

All of which brings us to 1996, the year in which the FIA rubber-stamped the regulations that become the World Rally Car formula we now know. The passage of time has served

to cloud what was an incredibly turbulent time for the sport of rallying, with Toyota's enforced sabbatical having turned the squabble for honours into a two-horse race: Subaru pitched against Mitsubishi.

Against the Japanese might now dominating rallying's top tier, the Escort Cosworth couldn't help but look a mite old-hat. Carlos Sainz's metronomic point-scoring ability enabled him to clinch third in the drivers' championship that year, but it couldn't hide the awkward truth, namely that the Cosworth was no longer a match for its closest rivals.

It's true what they say, though: the more things change, the more they stay the same. Just as the present World Rally Championship often



Ford secured a deal with Carlos Sainz to drive the last of the Group A cars in 1996 (seen here) and the first season with the new WRC Escort Cosworth in 1997 – again with the iconic Repsol livery his sponsorship brought to the team.

appears to be in a state of near-panic as to its continued viability for OEM car manufacturers, so it was 25 years ago. Toyota would of course return to the fold in time for 1997, but the powers that be were painfully aware that they were one lost car maker away from a real crisis of competitiveness.

The WRC simply wouldn't be a viable, competitive proposition without at least three car makers involved, and this presented Ford and M-Sport with something of an opportunity – with the governing body holding a temporarily weaker hand than usual, there was wiggle room regarding Ford's next car, one that would be built to the World Rally Car rules.

The Escort itself was living on borrowed time, of course, what with the much-vaunted Focus due to make its forecourt bow in just over a year's time. No car maker, not even one as large as Ford, was going to countenance the idea of designing, testing and building a World Rally Car from scratch, not if its works career (and mass-market relevance) was going to be measured in months rather than years.

So, Ford went to the FIA, not quite

cap in hand but certainly with a timid, all-or-nothing request. The Escort, the backbone of FoMoCo's rallying exploits for well over 20 years, required a stay of execution, some bending of the rules and the consent of Ford's rivals. In return, the FIA would get another manufacturer entrant for the first season run under WRC regs.

The deal was duly done, albeit with a rumble of dissent from some of the Blue Oval's rivals, all of whom had to (eventually) consent to the move.

Rubber-stamping the paperwork

was, if anything, the easy bit – it was now down to M-Sport and Ford to carry out the revisions required to make the Escort a competitive rally car once more, and with mere months in which to do it.

A good idea of just how frenetic the pace of development was can be gleaned from the fact that just six months separated the FIA's approval of the Escort and its initial homologation. Tall orders don't come much steeper.

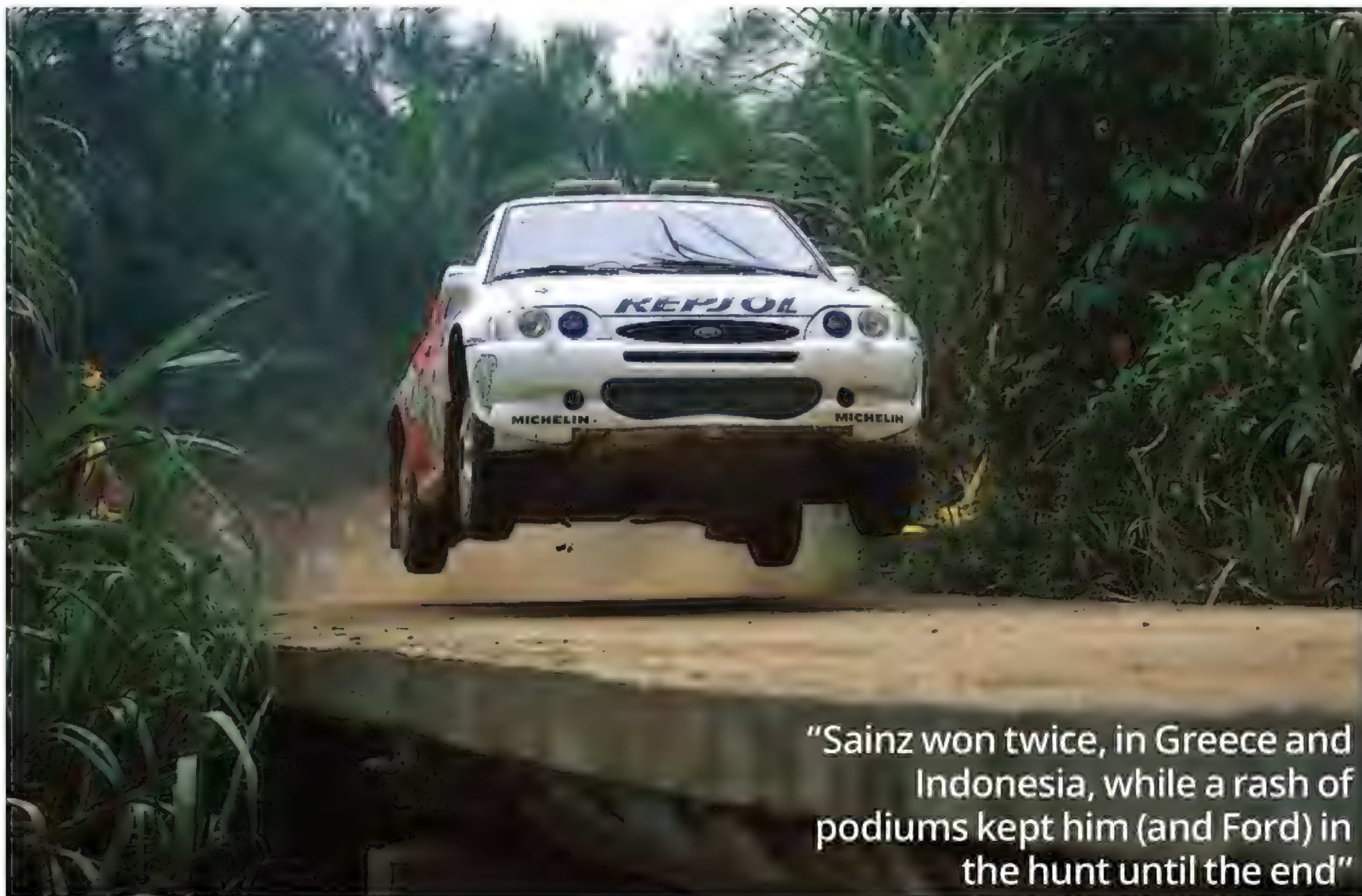
Much of the re-engineering work was focussed on one of the Escort's biggest weak points and a link with its late 1980s' Sierra underpinnings, its semi-trailing rear suspension setup. As is the case today, rally engineers at the tail end of the 20th century were constantly striving to improve the suspension performance, and more specifically, the suspension travel, of their cars, and the development of the new Escort gave M-Sport's finest greater freedom to make improvements in this regard.

The Escort WRC's revised rear suspension system was nominally based on that of the Mondeo road car, although it was heavily revised in readiness for a life spent hammering special stages. The 'strut independent' layout was nevertheless a quantum leap over



Carlos Sainz's metronomic point-scoring ability enabled him to clinch third in the drivers' championship.

ESCORT COSWORTH WRC



"Sainz won twice, in Greece and Indonesia, while a rash of podiums kept him (and Ford) in the hunt until the end"

the semi-trailing system the Escort had inherited from its Sierra-based forbearer, and far more conducive to maximising road-tyre contact. It increased the Escort's competitiveness on rough gravel events at a stroke, and can quite rightly be viewed as the biggest, most effective deviation from the spec of the road-going Cosworth.

While the venerable Cosworth YB was a fundamentally reliable engine and well suited to continued use, it had been hampered by the addition of Ford's seven-speed gearbox in the later portion of the Escort Cosworth's career, the MS95. This unit didn't survive the move from Group A to WRC rules and was replaced by a far more capable X-Trac sequential system before the conclusion of the year.

The performance of Group A rally cars had been soaring for a full decade by the time the Escort WRC took its competitive bow and the

FIA, with the tragedies associated with Group B no doubt at the forefront of its mind, had taken steps to peg back performance via the introduction of mandated turbo restrictors – in 34mm size for the '97 season. This had hampered the YB to a disproportionate degree, and as such Ford took steps to rectify things as far as possible with the Escort WRC.

The most obvious engine change was its forced-induction system, with an IHI turbo replacing the mammoth Garret found on the big-turbo Cosworth. This also meant that Ford could now build an EsCos road car with a smaller, more responsive T25 turbo better suited to road use, without having to meet strict homologation rules. The new car also gained a new exhaust manifold, a revised injection system and Pectel engine management.

The most obvious underbonnet difference between the Escort and

its 'proper' World Rally Car rivals was the position of its engine, the YB's rear-wheel drive, Sierra-based origins all too apparent in its longitudinal location. The likes of Mitsubishi and, in time, Toyota, Peugeot, Seat and Skoda, all used transverse engine layouts. Subaru's flat-four boxer was located longitudinally, though its unique configuration ensured it was a very different beast from the old-school Escort.

Visually, there was a world of difference between the Cosworth and the Escort WRC, Ford having spent hours in its German wind tunnel to devise an aerodynamic package that met the new rules and was more effective than the kit found on its predecessor. The Cosworth's signature rear wing was too large and was replaced, the new car gaining its somewhat divisive (yet wind tunnel-proven) spoiler, while the front end was revised to aid airflow and therefore cooling over the

significantly enlarged intercooler and radiator.

Four works drivers piloted the Escort WRC over the course of its two-year career – Carlos Sainz, Bruno Thiry, Armin Schwarz and – when Schwarz's sponsorship funds failed to materialise by the midpoint of the 1997 season – Juha Kankkunen. It's fair to say Ford was somewhat fortunate to secure the services of Sainz for the Escort's debut season. The two-time champ had found himself on enforced gardening leave by Toyota's year-long ban, and while his would-be teammate, Kankkunen, opted to spend his downtime playing golf and tending to his moustache, Sainz signed a two-year deal with Ford.

The Escort WRC's best season would prove to be 1997, which perhaps isn't surprising when you consider the rapidly evolving nature of the 'pure' World Rally Cars it was facing off against. Sainz won

twice, in Greece and Indonesia, while a rash of podiums kept him (and Ford) in the hunt until the end. He fell some way short of Mäkinen and Mitsubishi, but it was a positive season all the same.

The following year was tougher. Increased World Rally Car competition from rivals like Subaru and Toyota, now with its Corolla WRC with Sainz at the wheel, ultimately told, and there were no more Escort victories. Kankkunen contributed further podiums, including incredible drives to second on the Monte, the Safari and the RAC, but it was clear that the tide had finally, and permanently, turned against the Escort.

The history books don't do the Escort WRC any favours if you define success by bare stats alone. It collected a handful of wins over the course of its short career, and effectively kept the wolf from the door as far as Ford's world rallying

aspirations were concerned. Not great. Not a world-beater, and certainly a less successful car than the Focus that replaced it.

Yet as is so often the case when talk turns to truly iconic rally cars, those that remain stubbornly rooted within your mind's eye, the Escort WRC endures. It might not have been Ford's most successful rally car, but if nothing else the WRC is a fascinating artefact from one of rallying's most significant periods. It really is nothing less than a missing link, bridging the Group A Cosworth and the Focus WRC of 1999.

Whether it's down to its role in cementing the relationship between Ford and M-Sport, because it was the last in a line of models forever associated with rallying, or merely because it looked simply brilliant in either Repsol or Ford Motorsport getup, the Escort WRC is still, and will always be, a firm favourite fast Ford.



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Ford's history in the WRC

We take a look at Ford's long and illustrious history in the World Rally Championship, taking us from the early 1980s through to the late Nineties and onwards to the mighty Focuses and Fiestas...

It's hard to think of a car manufacturer as closely associated with a particular form of motorsport as Ford and the World Rally Championship. The marque's cult appeal in the UK is largely built on a bedrock of rallying success and the homologation specials it necessitated. The vast majority of iconic RS models that we all hold dear are connected to the sport in some way or another.

Ford's history in the WRC stretches back to the early 1960s and its first foray into off-road competition with the Cortina GT.

Countless volumes have been printed on the competition histories of these cars and their Mk1 and Mk2 Escort successors, and while we're

undoubtedly massive fans of the models and their massive success, the story has been told many times over by our sister publication, *Classic Ford*.

That's why we begin our history of FoMoCo's involvement in the WRC in the early 1980s, starting with the ill-fated RS1700T and its troubled gestation in the face of the Group B onslaught.

A DIFFICULT BIRTH – THE RS1700T

Ford had utterly dominated British rallying during the 1970s, though had been made to work very hard for success on the world stage, with Fiat's 131 Abarth arguably the better prospect on sealed surfaces and the Lancia Stratos still scalping works

cars years after it'd been relegated to privateer status.

That success had come at a price, and Boreham entered the decade faced with something of a dilemma: continue racking up short-term success with the aging and soon-to-be-outclassed Mk2 Escort, or develop a new WRC challenger to meet the Group B regulations.

In the end, Ford attempted both, with Ari Vatanen's 1981 driver's championship success proving a fitting swansong to the Mk2's semi-works career.

This meant Ford's new car was late coming, and by the time development began properly, the WRC was going through a change, with Audi's Quattro unceremoniously



Above: The Mk1 Escort RS1600 was a formidable rally car.



Right: The RS1700T could have been a world-beater...

relegating NA engines and rear-wheel drive to the past.

That didn't prevent Ford from pressing ahead with Project Columbia, and a prototype was shown to the press in summer 1981, with a competition debut pencilled in for the following year.

Sadly, that never happened for a variety of reasons, although Boreham's time spent deciding whether to use a boosted BDA or a 2.4 Hart 420R certainly played a part. Still, Vatanen was actively

testing prototypes by the middle of 1982, and the new Escort proved to be one-and-a-half seconds quicker over a known stage than the Fiat 131 Abarth, albeit nowhere near the Quattro's benchmark

While this was going on it became ever clearer that two-wheel drive was going to be an inherent disadvantage, proved by the Lancia 037's desperate battle to contain the Quattro. Vatanen had also opted to leave for Opel by this point, plus the RS1700T's development was

running behind schedule; the writing was well and truly on the wall.

It's a shame that things panned out in the manner they did, as the RS1700T could've been a world-beater if it'd debuted just a few years beforehand; the BDT up front gave loads of power, the chassis and suspension benefited from Boreham's years of experience, and the body was very lightweight. Ford finally cancelled the project in March 1983 and moved onto the RS200...

LATE TO THE PARTY – THE RS200

Ford's difficult relationship with world rallying in the white-hot heat of the 1980s continued with the RS200, a car that, through no fault of its own, became associated with the darker side of Group B.

If Ford had got its act together a year or so earlier, then the RS200 would probably have left a massive impression on the WRC's history books, as it was littered with clever design touches and engineering nous, all of which made it a formidable opponent on loose surfaces. The twin-damper and double wishbone setup would've made it damn near unbeatable on car-breaking events like the Acropolis and the Safari, its BDT engine could easily be coaxed into making huge power figures, and its weight distribution was impeccable thanks to the gearbox's location in front of the engine and next to the front and centre differentials.

In fact, all three diffs boasted high-tech viscous couplings, and torque could easily be toggled to suit gravel or sealed surface events (46:54 for the former, 37:63 for the latter). Its futuristic looks would've made it a bedroom wall icon for countless car fans across the globe, though we're guessing Ford's marketing men weren't such fans, as it shared little with the mainstream models aside from a Sierra windscreen.

So what went wrong? Well, just as with the RS1700T, Ford was too



Left: The RS200's best result in the WRC was a third place in Sweden.

Below: A change in Group B regs meant the RS200's WRC career was cut short.



FORD IN WRC

late to the party, the RS200 making its WRC debut in February 1986. By then Group B was in full swing, power outputs were verging on the insane, and the opposition from Peugeot, Lancia and Audi was formidable.

Ford claimed that its latest challenger had 450bhp – a figure that would've seen it compare very favourably with the crop of cars that competed a year previously – but by 1986 wasn't really enough, especially as the RS200 was heavier than its nearest rivals. It also seemed to suffer from worse turbo lag than its rivals (Lancia got around the problem by compound-charging the Delta S4, while Audi and Peugeot experimented with anti-lag), and still needed a lot of development work.

Then there were the crowd issues outside of Ford's control and the tragic accident that occurred on the Portuguese round of the championship, when Joaquim Santos lost control of his RS200 and plunged into a bank of spectators, killing three and injuring dozens more. This, combined with the tragic death of Henri Toivonen and Sergio Cresto on the Tour de Corse, forced the FIA's hand, and Group B was banned from 1987, with all evolution models rendered illegal for the remainder of the season.

This move left Ford at a massive disadvantage and meant the countless hours spent developing the RS200 were in vain; the car would have to fight Lancia and Peugeot with a power deficit of at least 100bhp. The FIA's decision also ensured that Audi and Ford were sporadic competitors on the remaining rounds, picking and choosing events that best suited their respective cars.

One event did offer a glimmer of hope, the Greek Acropolis, which Kalle Grundel made his own, storming into the lead and making the most of the RS200's superb chassis and gravel setup.

Sadly, Grundel and the RS200



The Sierra Cosworth was pressed into service after Group B was banned.

were to be denied a swansong victory, a botched hub change resulting in a punishing time penalty that put him out of contention. This meant the RS200's best overall result in the WRC was also its first – Grundel's third on the Swedish, though the car did go on to have a long and fruitful rallycross career.

SIERRA COSWORTH AND SAPPHIRE COSWORTH – FLAWED GEMS

It's hard not to feel slightly sorry for the three-door Sierra Cosworth in

rally guise. Its circuit-going siblings were busy rewriting touring car history and utterly embarrassing rivals across the globe, but the Group A rally cars were denied any such success thanks to their rear-wheel-drive layout.

Indeed, the Sierra was never meant to be Ford's front-line rally car; it was merely the only remotely suitable model in the range when the plug was abruptly pulled on Group B in 1986. The 2.0 YB was the Sierra's trump card, and it made respectable



Francois Delecour was the stand-out performer in the Sapphire.



The Sapphire may have been big and heavy, but at least it had four-wheel drive.

power from the very start – certainly more than other Group A offerings from Mazda, Nissan and VW.

But all the shove in the world couldn't overcome the traction deficit caused by the car's rear-wheel-drive layout, and this instantly rendered it at a disadvantage on all loose-surface events.

That the Sierra actually did quite well and consistently punched well above its weight was a credit to the team and the incredible skills of the likes of Didier Auriol, Ari Vatanen and

Stig Blomqvist, but it was also hard to ignore the fact that many of the best results were snatched against the odds, owing more to the early failings of Lancia's Delta than the strengths of the Sierra.

It wasn't all bad, though, as the Sierra played a massive role in furthering the careers of a number of young rally drivers who would go onto great things in the 1990s. Didier Auriol's overall victory on the 1988 Tour de Corse was the car's greatest success, and he followed it up with a

third place on the rough, demanding Finnish round, the 1000 Lakes.

Colin and Alister McRae both piloted one, as did Carlos Sainz, and all three enjoyed flinging the charismatic cars into tight corners at impossible angles and speeds, then hauling them back into line again just in time for the exit. It might not have restored Ford's honour, but the Sierra was always a firm favourite with the crowds.

The rising tide of all-wheel drive couldn't be fought forever, and Ford was soon looking to the Sierra Sapphire 4x4 for the foundations of its next WRC challenger.

On paper it had the making of a successful car; the YB was present and correct, there was a seven-speed competition gearbox available from 1990, and it featured the all important four-wheel-drive system.

It was also heavy and on the large side, especially compared with the all-conquering Delta it was meant to compete against, but what could Ford do? Group A rules were quite restrictive, and it wasn't as if there was a production 4x4 variant of something like the Fiesta to base the new challenger on.

This meant the Sapphire, just like its three-door predecessor, was always something of an underdog, and that showed in its results.

Colin McRae hauled one to sixth place on the 1990 RAC (no mean feat considering the calibre of the opposition and the length of the rally), but it was Francois Delecour who really made the car his own, fighting Lancia and Toyota hard throughout 1991. A Monte Carlo victory was even on the cards until the rear suspension gave up the ghost, pushing him down to third, a feat he repeated later in Spain.

Miki Biasion strengthened Ford's line-up the following year, but the Sapphire was still blighted by reliability gremlins, and its best results ended up as a pair of second places: one for Biasion in Portugal, the other for Delecour in France.



"Ford was soon looking to the Sierra Sapphire 4x4"



The Escort Cosworth won six outright victories in 1993.

THE ESCORT RS COSWORTH – UNFULFILLED POTENTIAL

Group A rally cars became ever more specialised and expensive as the 1990s progressed, and the WRC began to flourish thanks to the arrival of Japanese manufacturers like Subaru and Mitsubishi.

The launch of Ford's new car in 1993, the Escort Cosworth, even coincided with the sudden fall from grace of the Delta Integrale, so the stage looked set for FoMoCo to dominate WRC once again.

The Escort had all the makings of a championship contender, despite being based on the Sapphire; it was shorter, lighter, bristled with aerodynamic aids and, crucially, Ford had sacrificed driveability of the road cars in favour of outright power – hence an oversized T34 turbo.

It was certainly the most specialised of Group A cars, and the Cosworth variant of the Escort bore almost no resemblance to any other car in the range, all of which only served to underline just how seriously Ford took rallying in the early Nineties.

It was a very good year for Ford, Delecour and Biasion, with six outright victories, enough to earn second in the manufacturer's title and for Delecour to nab the runner-up spot in the driver's championship. The team was certainly among the favourites for the following year.

Sadly, fate conspired against Ford in 1994, and though Delecour opened his account with victory on the Monte Carlo, there was only one more win that season – Finland, courtesy of Tommi Mäkinen.

Things got worse in spring, with Delecour forced out of the lead in Portugal, before being sidelined for the rest of the year after crashing his friend's Ferrari F40. The smash left him with broken legs and effectively curtailed his top-line WRC career.

Ford faced a crushing disappointment in 1995 as, despite having Delecour back behind the wheel, the aging Escort found itself outclassed by the Evo and Impreza, and there were no more victories for the car in Group A guise – but it went on to enjoy a fruitful career in various national championships.



Francois Delecour won the 1994 Monte Carlo in the mighty Escort Cosworth.

ESCORT WRC – THE ULTIMATE FORD ESCORT

Group A was never intended to be the top tier of the World Rally Championship; it was merely pressed into that role in the wake of the Group B tragedies.

By the mid-90s it'd become clear that a change was needed; Group A's restrictive rules were discouraging manufacturers from taking part in the championship, while long-time stalwarts like Toyota were voicing complaints about the direction the formula had taken the sport.

The FIA tried to solve the problem with the World Rally Championship rules, a set of regulations that made it easier for car companies to transform mundane hatchbacks into gravel-chucking rally cars – without the need for expensive homologation specials (hence why you couldn't walk into a Ford dealership and buy a 4x4 Focus WRC with a 2.0-litre turbo).

Although the regulations were designed with companies like Ford in mind, WRC did leave Dagenham in a bit of a quandary come the end



Repsol cars featured one of the most iconic liveries seen in the WRC.

of 1996; the Escort Cosworth was due to go out of production soon, the Escort Mk6 was getting a little long in the tooth, and its successor was still a few years away. The rules also stated that all WRC cars had to be based on a current model with a production level of at least 25,000 units a year – way more than the number of Escort Cosworths.

Ford eventually struck a deal with the FIA; the team would contest the

series, but the authorities had to agree to allow them to use the old Escort Cosworth as a base for their WRC challenger.

It was a deal that was struck very late in 1996, and one that left the team, now run by M-Sport, with very little time to build the cars. It wasn't as if all Malcolm and the guys had to do was swap the whale tail for a smaller spoiler and fit revised front bodywork – the WRC Escort was an

almost totally different beast.

Yes, it was still powered by the trusty YB, but it was a motor that'd been totally reworked and fitted with the smaller hybrid IHI turbo mandated by the FIA, plus more sophisticated management and a revised fuelling system.

The front and centre differentials were controlled by an electro-hydraulic system, the handbrake could be set up to disengage the centre diff to make navigating hairpins easier, and by the middle of the season Xtrac had devised a sequential six-speed gearbox.

The rear suspension was also heavily redeveloped and strengthened, while the exterior featured more sophisticated aerodynamics and better airflow to the engine. All of this had to be developed, built and fitted in mere weeks, with the season-opening Monte Carlo taking place in January.

M-Sport dovetailed the build with a campaign to get two of the best rally drivers of all time into their cars, eventually coming up trumps with Carlos Sainz and Juha



The WRC Escort Cosworth was piloted by the legendary Carlos Sainz.

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FORD IN WRC

Kankkunen. The cars certainly looked spectacular (and you couldn't help but notice that bright orange Repsol livery), but the Escort was up against some seriously tough competition from Subaru and Mitsubishi, and the M-Sport team generally struggled to take the fight to the Japanese.

It was a tough little car, though, and its reliability helped Sainz and Kankkunen take a 1-2 on the Acropolis, with the Spaniard even in the hunt for overall title honours until a non-finish in Australia.

Ultimately, the Escort WRC couldn't match the might of the Japanese teams, and there was just one more victory before its retirement at the end of 1998, an event that marked the end of 30 years of Escort rally cars. The Escort would be sadly missed by all concerned, and though neither the Group A Cosworth nor WRC variants had brought FoMoCo championship success, they'd kept the marque

at the forefront of the rallying world and given us some achingly desirable homologation specials. And for that we are eternally grateful.

A NEW FOCUS

The Escort had been the mainstay of Ford's rally programme since the 1960s, so of course finding a fitting replacement was going to be challenging, and it'd be fair to say that the Focus had very big shoes to fill when it was announced at the end of 1998.


Fortunately, Ford was committed to the WRC and elected to go about seeking championship success by throwing money at the problem – in terms of developing the Focus and also an attempt to nab one of the sport's greatest stars, Colin McRae. The Scotsman had won the 1995 driver's championship in fine style and had been instrumental in Subaru's continued success ever since; he was technically minded,

gave great development feedback, and was almost indecently fast. He also didn't come cheap, and Ford eventually signed him up with a £3 million-a-year contract, a record sum at the time.

The Focus itself looked to have all the makings of a WRC winner, with a compact shell and a well-thought-out chassis with plenty of scope for further development. The active differentials were staggeringly clever, with the front and centre units featuring computer-controlled hydraulic locking mechanisms for rapid progress on fast, loose surface stages. The engine sat a full 20mm further backwards than it did in road-going cars, and was even canted over by 25 degrees for better weight distribution and to more easily connect to the Xtrac six-speed. It also looked somewhat like a regular, road-going Focus, something that no doubt pleased Ford's all-powerful marketing division.

McRae won the gruelling Safari Rally.





Ford paid a record sum to secure the driving talents of the legendary Colin McRae.

The only fly in Ford's ointment was weight – the Focus WRC tipped the scales at 1260kg, quite a bit heavier than its rivals. Peugeot also stole a march on the rest of the competitors at the same time by homologating its 206 hatchback, a car that fell short of the FIA's minimum length yet was permitted after it was fitted with bulging front and rear bumpers.

Still, the Focus certainly had promise and, unlike the Escort, M-Sport had time to properly develop it before its works debut in 1999, with extensive testing taking place during the winter months. McRae was joined by Simon Jean Joseph (for sealed surfaces) and Thomas Radstrom (for snow and gravel), and all three took to the car quickly – so much that it was on the pace from the word go, McRae setting several fastest stage times on the Monte Carlo (though the team was later excluded for an illegal water pump).

The drivers were understandably

furious, but they didn't have to wait too long for the car's first taste of success, McRae managing to guide the Focus to victory on the Safari Rally a few months later. This was a significant result, as it proved that despite being on the heavy side, the Focus was nothing if not tough, and it was underlined by McRae's follow-up victory on the Portuguese round just a few weeks later.

Sadly, the success was short-lived, and by mid-season the Focus was being regularly sidelined by gremlins, meaning McRae was unable to mount a title challenge.

Although clearly a promising car, 1999 had revealed that the Focus wasn't without its faults, with weight being one of the biggest issues. M-Sport worked tirelessly over the winter, and the car that rolled out for the Monte looked markedly different, not least because it sported a new Martini livery and revised aerodynamics. There was also a revised transfer box and new turbo,

all designed to make the car a more reliable prospect and help it catch the likes of Peugeot on ultra-fast tarmac events.

The driving line-up had been strengthened, with McRae joined by long-time sparring partner Carlos Sainz, and it was the Spaniard that actually started the 2000 season off best, holding on to take second place on the Monte Carlo.

McRae and Sainz spent most of the season locked in a titanic battle with each other and the Peugeot of Marcus Gronholm, with the former eventually netting victories on the tarmac of Catalonia and the ultra-rough Acropolis, results that only served to underline how adaptable the Focus WRC was.

Sainz visited the top step of the podium only once, in Cyprus, but he was the more consistent of the pair and racked up plenty of points, all of which meant it was the Spaniard that finished higher in the standings, his three-point advantage over

FORD IN WRC



Marcus Gronholm, the 2000 and 2002 Champion, was signed to drive the 2006 Focus.

McRae enough to net him third behind Gronholm and Richard Burns.

By 2001 the Focus was as good as any other machine in the WRC, and it allowed McRae to mount a serious title challenge for the first time in years. That said, it didn't look like the Scot stood much chance of taking the fight to Subaru and Richard Burns after the first few rounds of the season, with three retirements from four rounds leaving him trailing by a long way.

McRae was always at his fastest when fighting back, though, and he hit a rich vein of scintillating form in the middle of the season and claimed three victories on the trot in Argentina, Cyprus and Greece, followed up by podiums in Finland and New Zealand. It ensured that the Scot went into the final round, fittingly Rally GB, in the title hunt and up against fellow Brit, Richard Burns.

The media went into meltdown and it didn't take long for the McRae versus Burns showdown to be dubbed The Battle of Britain, despite the fact that Tommi Makinen and Carlos Sainz were both still in with a chance. It's also worth noting that this level of interest in the WRC from the UK media hadn't been seen for decades, certainly not since the

height of Roger Clark's prowess in the mid-1970s, and it served to massively ramp up the general public's interest in the sport as a whole.

The rally itself had been neutered somewhat and was now restricted to a series of blasts through South Wales forests, though there were still classic stages like Resolven and Halfway to be negotiated.

Sainz and Makinen were effectively eliminated early on, the former with a puncture and the latter thanks to a suspension failure, leaving the way clear for the much-anticipated battle

between McRae and Burns.

Sadly, things didn't exactly pan out like that, with the Scotsman somersaulting his Focus out of the rally in spectacular fashion on the first run through Rhondda and leaving the title for Burns to collect. M-Sport had netted second place in the manufacturers' championship, but the sense of disappointment from all involved was palpable.

Colin and Carlos would last drive for Ford in 2002, with M-Sport having taken care to nurture a number of young, talented drivers





in the preceding seasons. The year turned out to be something of a disappointment for both drivers, and it also marked the first inkling that rallying might well be seeing a changing of the guard, with older drivers slowly giving way to young guns like Peter Solberg, Sebastian Loeb and Marko Martin.

McRae and Sainz ended up separated in the overall standings by a single point, the Spaniard just pipping the Scotsman to the bottom step of the podium despite scoring fewer wins. Sadly, 2002 was to

provide McRae with his final WRC victory, although we didn't know it at the time. It was entirely fitting that one of the finest drivers to ever grace a special stage should take his final win on the incomparable Safari rally.

By 2003 the passing of the torch had been completed and the series now belonged to the drivers who've subsequently gone on to dominate, with the likes of Loeb, Martin, Solberg, Hirvonen and Latvala all making appearances.

Ford fielded a young line-up spearheaded by Marko Martin,

the young Estonian having proved his worth on the 2002 running of Rally GB and an event on which he eventually finished second.

The year also marked the final evolution of the Mk1 Focus WRC and perhaps its finest iteration. Certainly, Martin regarded the new car (introduced partway through the season in New Zealand) as the best of his career, and it bristled with new aerodynamic aids, scoops and vents. The RS03 looked like a modern-day take on Group B beasts and was the brainchild of Ford's latest technical director, Christian Loriaux.

M-Sport had also put the Focus on a crash diet, and the 2003 car sat right on the FIA's mandated minimum weight thanks to a revised rear suspension setup, a new wiring loom and data-logging system, and a new Cosworth Duratec-R engine.

Martin wasted no time in making the new car his own, eventually using it to take his maiden WRC win on the Acropolis rally, a result he backed up with a stunning victory on the notoriously fast and unforgiving Finnish round. It's worth noting that Martin managed to jump the Focus in truly jaw-dropping fashion on that year's rally, and it's well worth searching out his Ouninpohja efforts on Youtube – he flew through the air for a staggering 57 metres. These were hard-fought victories, though, and there was no disguising the fact that the season belonged to Peter Solberg and Subaru.

More of the same came in 2004 and 2005, with the first generation of the Focus WRC slowly beginning to look outdated in comparison to the new Xsara, 307 and Fabia WRCs.

Martin's best season was 2004, and he claimed three outright wins and third in the championship standings before moving to Peugeot in 2005. The loss of its star driver left M-Sport in a quandary, and though the team fought on throughout 2005 there were to be no more wins for the Mk1 Focus, the



FORD IN WRC

The Fiesta replaced the Focus as Ford's WRC challenger in 2011.



first time it'd ever failed to get a driver to the top step of the podium at least once in a season.

2006 – SWITCHING FOCUS

It was clear that a new car was needed, not least because the original Focus road car had been replaced by the Mk2, and M-Sport was retained to develop and run it.

The second-generation Focus was larger and heavier, though there was more scope for aerodynamic development, plus Ford's considerable budget had attracted a new star signing in Marcus Gronholm, the 2000 and 2002 champion.

M-Sport was now also one of the most experienced rally outfits in the business, so it perhaps shouldn't be surprising that the new Focus was able to pick up near enough where the old one left off.

WRC rules prevented Ford from running the Focus ST's Volvo-sourced five-pot in the car, so a

heavily reworked 2.0 Duratec was chosen instead, this time developed by Pipo Moteur.

New rules were also designed to cap costs in an effort to make the sport more appealing to manufacturers, so many of the more high-end materials like Kevlar and titanium were strictly governed, something of a problem when it came to cutting the new challenger's base weight to a competitive figure.

That the team eventually managed to cut it down to a svelte 1230kg is nothing short of astonishing, especially when you remember the entire car was developed from a clean slate over just 11 months. Those same cost-cutting measures also had a massive effect on the new car's chassis and drivetrain, and with active differentials outlawed from 2006, even more emphasis was placed on perfect suspension setups and, of course, driver talent.

Engines were also limited and

paired to certain groups of events, so having a driver who could be relied upon to actually bring a car to the finish of a rally in one piece became more important than ever.

Gronholm soon made the most of the new Focus, darting into the lead of the 2006 Monte Carlo Rally (an event that Loeb had pretty much made his own). A tough battle followed on the snowy, treacherous tarmac stages around the principality, with Gronholm eventually emerging ahead of the Frenchman in the aging Xsara.

The event effectively set the tone for the remainder of the season, with the pair battling it out across a massive variety of stages, surfaces and climates. The new Ford was generally faster than the semi-works Xsara WRC, but Loeb's sheer brilliance and confidence in a car he'd been rallying for years helped the Frenchman rack up an enviable tally of results, and he went on a blitz



after Sweden and won the next five rounds on the trot.

Gronholm did the best he could and consistently banked solid podiums and high-scoring points finishes, which left him perfectly placed when Loeb broke his leg in a skiing accident late in the season.

Citroen drafted Colin McRae into its squad for a Rally Turkey to bolster its chances, and it swiftly became clear that the Scot had lost none of his fight or latent speed, though his relative unfamiliarity with the car meant Ford and Gronholm were able to make hay. The Finn managed to

claim superb victories in Greece, Finland, Turkey, New Zealand and Rally GB before the curtain fell on the 2006 season.

Once the dust had settled it became clear that, try as he might, Gronholm hadn't done enough to wrestle the title from Loeb, though his battling efforts had allowed Ford to win its first manufacturers' title since 1979. He'd missed out on the crown by a single point.

The same run of mixed form continued into the following year. The Focus would again be piloted by Gronholm and Hirvonen, though this time they'd face off against Loeb in the newly-homologated C4 WRC.

The Frenchman started the year with his customary dominance of the Monte Carlo but Gronholm fought back and claimed a string of podiums and victories throughout the year. He was actually leading the series until very near the end of the year, when a pair of retirements in Japan and Ireland effectively gifted the drivers' crown to his bitter rival.

Ford had won silverware yet again but it was hard to not feel slightly disappointed with how events had unfolded, particularly as 2007 was to be Marcus's final season.

Gronholm's vacant seat was filled by Mikko Hirvonen, with fellow countryman Jari-Matti Latvala nabbing the support role. It proved to be something of a transitional year for the M-Sport team as both drivers took a while to find their feet, though Latvala did manage to stun the rallying world by winning the Swedish rally at the tender age of 22 – a record that'd stood since the late, great Henri Toivonen had won the RAC in 1980. Hirvonen took a brace of wins as well, although it wasn't enough to stop Loeb winning the title once again.

Much the same continued in 2009, and the pair of flying Finns had to wait a long time before opening their respective accounts, Latvala leading a Ford one-two in Italy. This opened





Modern WRC regs state engine size has to be 1600cc.

the floodgates and Hirvonen found the form of his career, smashing out four impressive wins on the trot and heading into the final round of the season, Rally GB, with a slim, one-point lead over Loeb.

Wales's muddy, fast and flowing stages should've suited the Finn, but it was actually Loeb who seized the initiative and snatched a lead that he'd hold for the entire event. Citroen and Sebastian were triumphant yet again.

This was a theme that sadly continued for the following year, the last for the Ford Focus as a factory WRC car. A change was needed and, not for the first time, Ford wanted to start with a clean slate.

2011 – FIESTA WRC

Ford had trialled the idea of a rally Fiesta before, even going so far as to get Ari Vatanen to pilot a Mk1 on the 1979 Monte Carlo, but 2011 marked the first time the factory opted to base its main WRC challenger on the smaller car.

The FIA had changed the rules

governing car and engine size, the latter now dropping down to 1600cc with the help of a turbocharger. This rule change was designed to bring the WRC in line with the then-current S2000 regulations and to enable manufacturers to compete with their smaller, more popular models. Cost-cutting measures were still very much in force, hence the lack of hydraulic driver aids, active dampers and central differentials.

Ford's Fiesta would face off against Citroen's DS3 WRC and a Prodrive-entered Mini Clubman, and though the car was able to win three times in its debut season, it never looked especially likely to threaten the French dream team.

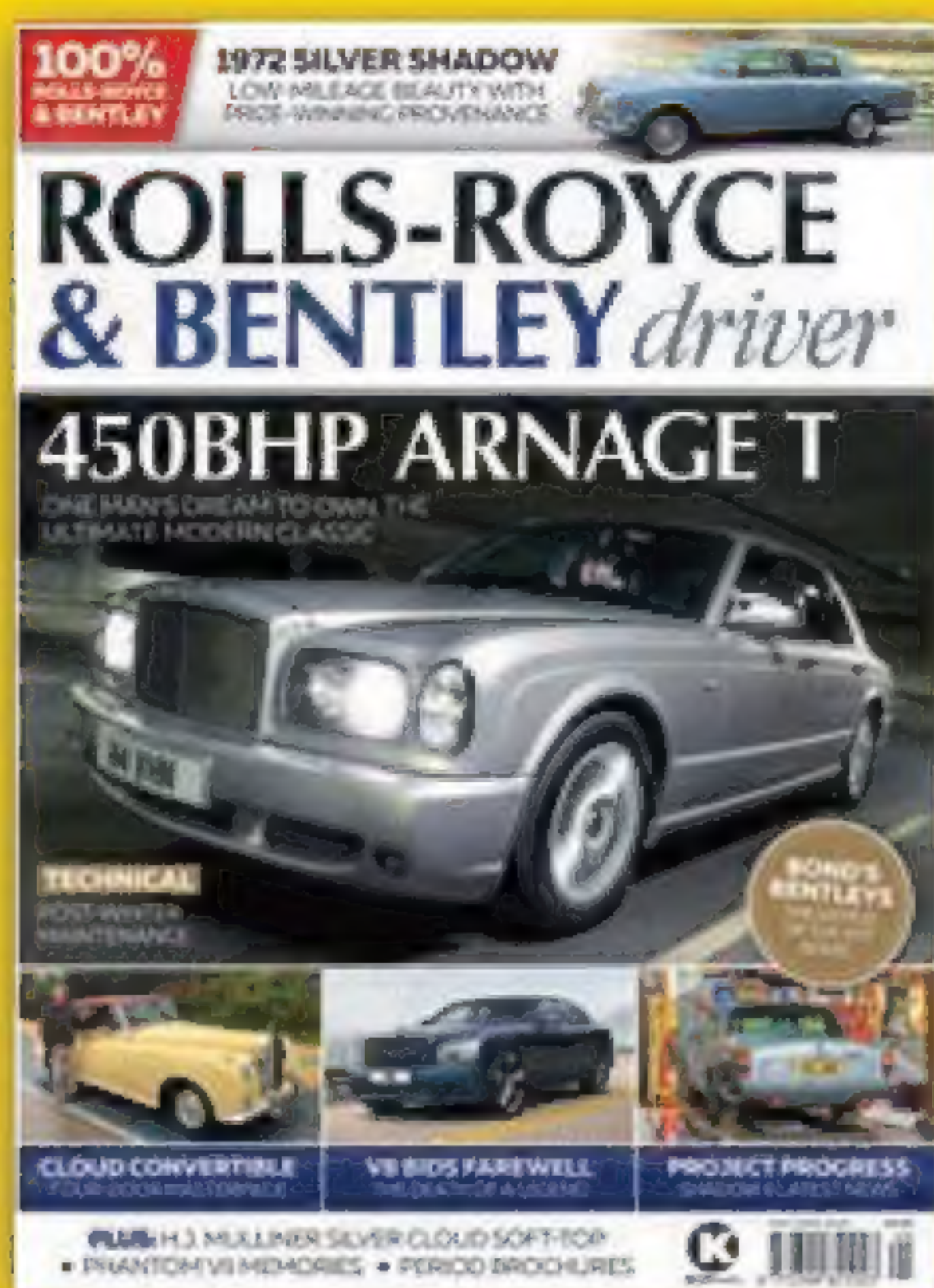
It proved equally tricky in 2012, with the lucrative Middle-Eastern sponsorship deal ending, Hirvonen departing for Citroen and continued rumours about the factory withdrawing from the sport. Ford was eventually persuaded to stay on, although it was hard to shake the feeling that involvement couldn't be counted on for the long term.

The 2003 champ Petter Solberg was drafted in alongside Latvala, while rising stars Mads Østberg, Evgeny Novikov and Ott Tänak were all also competing in Fiesta WRCs. While the team once again had to concede defeat to Citroen and Loeb (his ninth drivers' crown on the trot) there was cautious optimism, with Latvala performing well as team leader and Østberg taking his debut WRC win on the Portuguese round.

Sadly it wasn't enough to convince the powers that be to continue in the series, and at the end of 2012 Ford officially withdrew from the World Rally Championship, a move that's left M-Sport to fight on with the Fiesta ever since.

The team has punched well above their weight and continued to nurture young talent, but Ford's withdrawal coincided with the emergence of VW as a powerhouse of WRC.

But no one was betting against the great Blue Oval, and it wouldn't be too long before a Ford was back where it belonged – winning rallies.



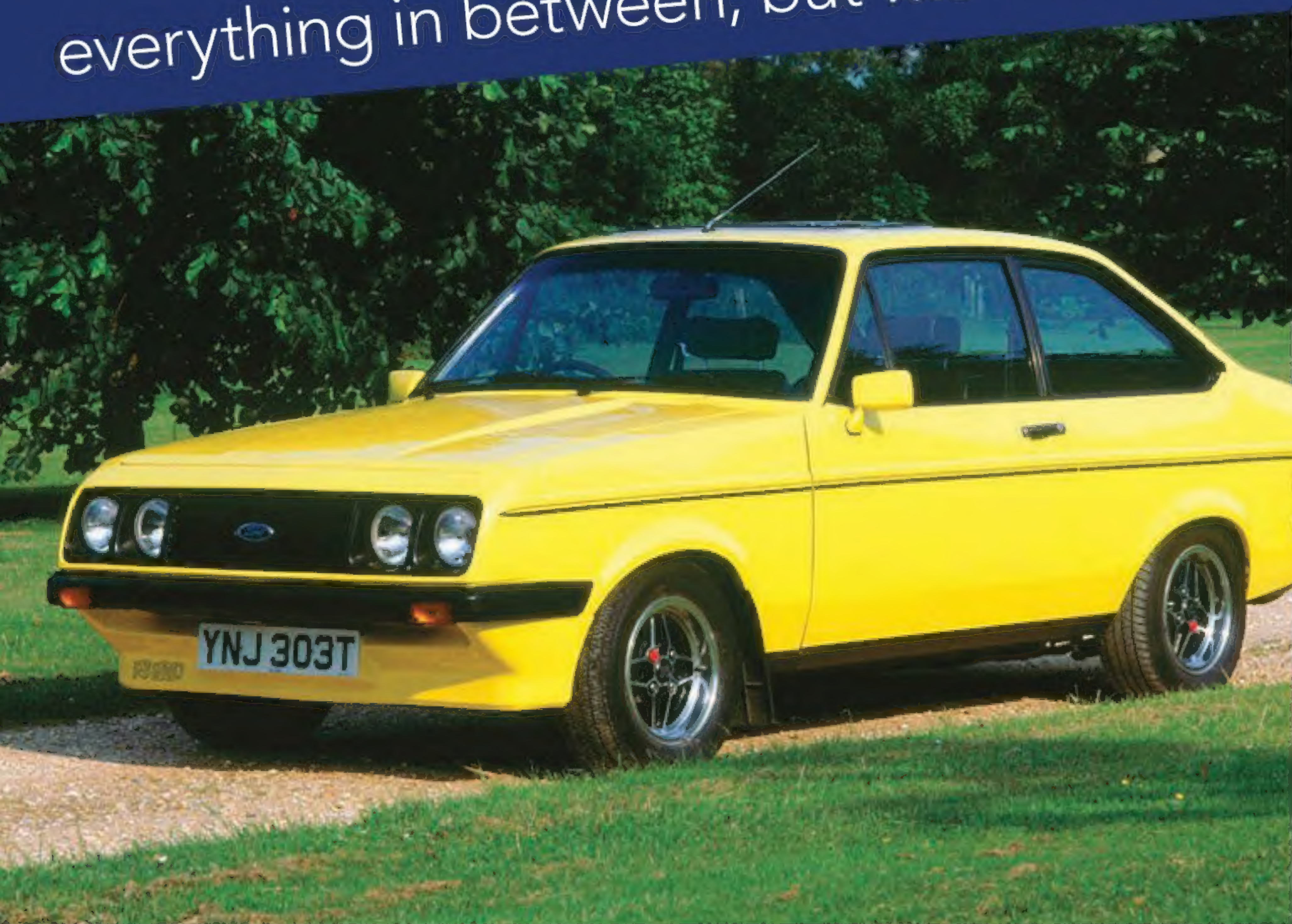
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A look at the cars, histories and development stories of some of the most iconic Fords.



Ford in Motorsport is the forth bookazine in the Ford Memories series and wow have we gone to town! We all love Fords, but slap numbers on the doors and push the car to its limits and we seem to love them even more.

With such a vast subject matter, this issue takes an overview of some of the most iconic cars and their stories, as well as charting the history of both the touring car series and rally Fords alike.

We start with the twin-cammed Lotus Cortina, pit-stop with engine development stories, ride along with the RS500 Cosworths, get airborne with the Escort WRC cars, before rounding the bend and finishing with the modern day Fiestas. Of course, that's not all that is covered.

GT40s, Capris, Mondeos and the ill-fated RS200 all make the grid, not to mention historical stories from the likes of Alan Mann and the RS1700T project.

